SEMI-ANNUAL REPORT

STUDY OF THE IMPACT OF THE ACA IMPLEMENTATION IN KENTUCKY

Prepared for:
Foundation for a Healthy Kentucky

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shadac
STATE HEALTH ACCESS DATA ASSISTANCE CENTER

BRIEF SUMMARY OF PROGRESS ON THE STUDY

The study began in March 2015. Since then, SHADAC's main study accomplishments and deliverables include:

- Study Methods and Plan
- Data Scan and Gaps Analysis
- Quarterly Snapshots:
  - January-March 2015
  - April-June 2015
  - July-September 2015
  - October-December 2015
  - January-March 2016
- Baseline data file
- 2015 Semi-Annual Report
- 2016 Annual Report
- Special Report: Uninsurance Estimates from the American Community Survey (Memo), and KY Health Insurance Coverage 2014/Estimates from the American Community Survey (Infographic), September 2015
- Special Report: ACA Improves Health Insurance Coverage for Kentucky Children, October 2015
- Special Report: High-deductible Health Insurance in Kentucky, June 2016
- Special Issue Brief: Section 1115 Waivers and ACA Medicaid Expansions: A Review of Policies and Evidence from Five States, May 2016
- Quarterly Meetings with Oversight Committee to solicit ideas and feedback
- Kentucky Health Reform Survey instrument development
- Conducting the Kentucky Health Reform Survey (K-HRS), March-May 2016.

In addition, SHADAC staff have tracked relevant developments in Kentucky, including newly-published studies, data updates, and state policy proposals and decisions. We track these ongoing developments through media coverage, peer-reviewed publications, and the grey literature.

SHADAC has continued to analyze secondary federal and state data sources for the study's ongoing indicators. SHADAC also has conducted the Kentucky Health Reform Survey and will continue to analyze the data. With input from the Foundation and Oversight Committee, SHADAC has begun planning for the qualitative component of the study and is on schedule to complete the focus groups and key stakeholder interview in Year 2 of the study.

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September 2016

TABLE OF CONTENTS

INTRODUCTION

Overview

This report was produced by the State Health Access Data Assistance Center (SHADAC) at the University of Minnesota as part of a mixed-methods study, ***Study of the Impact of Implementation of the Affordable Care Act (ACA) in Kentucky,*** funded by the Foundation for a Healthy Kentucky (Foundation). The study evaluates Kentucky's performance in five domains: coverage, access, cost, quality, and health outcomes.

As part of this project, SHADAC uses semi-annual and annual reports to document the impact of the ACA in Kentucky using a set of indicators agreed upon by the Foundation and its ACA Impact Study Oversight Committee. These reports track change in the indicators throughout the duration of this 34-month study (March 2015 through January 2018), and include comparisons of Kentucky metrics with the United States and other states. This report includes data obtained from analysis of federal and state data resources.

This report also presents preliminary findings from the Kentucky Health Reform Survey (K-HRS), which was conducted in spring 2016 by SHADAC and the University of Cincinnati's Institute for Policy Research. Future reports will present additional analyses of K-HRS data, including examining K-HRS estimates in comparison to pre- and post-ACA trends from the Kentucky Health Issues Poll (KHIP). Additionally, future reports will present findings from the qualitative components of the study, including focus groups with Medicaid beneficiaries and interviews with key stakeholders in Kentucky.

Purpose and Layout of Current Report

The main purposes of this report are to briefly provide an introduction and summary of progress on the study, as well as: 1) provide updates on key study indicators in Kentucky, and 2) present preliminary findings from the spring 2016 Kentucky Health Reform Survey.

1) Data update

This section provides a data update to the key study indicators that were introduced in the study's first semi-annual baseline report (August 2015) and first annual report (February 2016). While these data include indicators from all five study domains (coverage, access, cost, quality, and health outcomes), they are focused more heavily on the access and cost domains, with an update to 2014 estimates from the National Health Interview Survey (NHIS), the first year since ACA implementation. This section also updates certain measures in other domains, such as employer-sponsored insurance (coverage) and hospital admission rates for diabetes, hypertension, and asthma (quality), and it adds a new set of indicators that were not included in prior reports: cigarette smoking among Kentucky adults and adolescents (health outcomes). All of the updated data in this report represent the time period since implementation of the ACA. Some of the updates were available for 2015, while others were only available for 2014 at this time. As a baseline comparison, we use calendar year 2012 data for most indicators because it pre-dated the first ACA enrollment period; however, for certain indicators in which 2012 data weren't available, we use 2013 as a baseline. For selected indicators, we also compare Kentucky to national figures and nearby states for comparison (Arkansas, Indiana, Illinois, Ohio, Missouri, Tennessee, Virginia, and West Virginia).[1]

2) Kentucky Health Reform Survey (K-HRS) findings

The next section of the report presents preliminary findings from the Kentucky Health Reform Survey (K-HRS), which was conducted from March to May 2016. The survey asked non-elderly adults questions related to four primary domains: health insurance coverage and experiences with Kentucky's marketplace, kynect; affordability of care; access to care; and health status. These domains and the specific survey questions were selected in consultation with the Foundation and the study's Oversight Committee with the goals of addressing key study questions about the impacts of ACA implementation in Kentucky. We included several questions to remain consistent with the existing ongoing Kentucky Health Issues Poll (KHIP) survey, which will allow us to track trends pre- and post-ACA across these surveys over time. This report focuses on six topics from the Kentucky Health Reform Survey: uninsurance and coverage rates, experiences using kynect, concerns about losing coverage, care delayed or forgone due to cost, dental coverage and care, and use of emergency departments. Future reports will examine trends in indicators included in both the K-HRS and the KHIP.

II. STUDY FINDINGS: DATA UPDATE

DOMAIN #1: HEALTH INSURANCE COVERAGE

Health insurance coverage is a critical component of access to health care services. Having health insurance is associated with increased access to needed medical care, better health care outcomes, and improved health status.[2] In this study, the metrics used to monitor health insurance coverage in Kentucky and over time include the distribution of type of health insurance coverage (public, private, and uninsured); rates of underinsurance; and the percentage of employers that offer health insurance coverage. Our data sources in this domain include federal surveys that provide state-level estimates of health insurance coverage including the American Community Survey (ACS), the Medical Expenditure Panel Survey-Insurance Component (MEPS-IC) and the Current Population Survey (CPS). For this report, updated health insurance data were only available for one metric – employer offer rate. Subsequent annual and semi-annual reports will provide updated data as they become available for several additional metrics.

In this report, we present the most recent data available (2015) for the employer offer rate, compared to 2012 baseline data.

> "In 2015, the employer offer rate fell significantly from 54.4% to 47.8%, a 6.6 percentage point drop compared to 2012. This decrease was driven primarily by a decline in employer-based coverage offered by small employers."

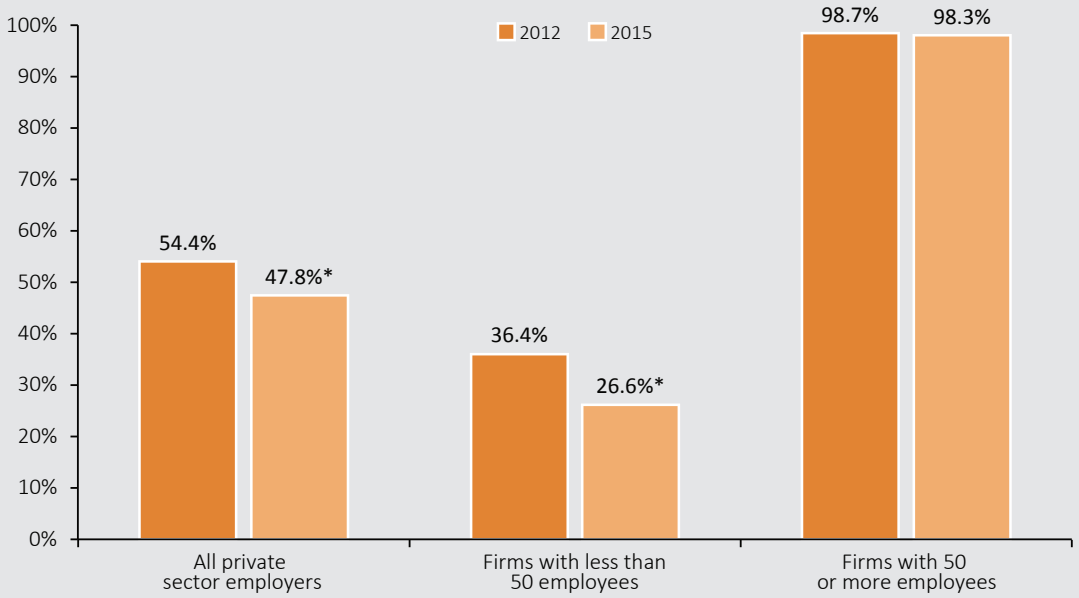
COVERAGE MEASURES

Decline in Employer Offers of Coverage, Driven by Small Employers

Overall, Kentucky saw a statistically significant decrease in employers offering health insurance since 2012. The employer offer rate fell from 54.4% in 2012 to 47.8% in 2015, a 6.6 percentage point drop. This decrease was driven primarily by small employers; the offer rate for large employers remained statistically steady at approximately 98% in 2012 and 2015.

Most people in the U.S. with health insurance coverage have health insurance that is sponsored through an employer. Looking at ***employer offer rates***, there has been a statistically significant decrease from 2012-2015. Figure 1.1 shows that in 2015, 26.6% of Kentucky's small employers (fewer than 50 employees) and 98.3% of larger employers (50 or more employees) offered coverage. Offer rates among small employers experienced a statistically significant decrease from 2012-2015, with a decrease of nearly 10 percentage points over that time period. In contrast, offer rates among larger employers remained stable. This significant decrease in employers offering coverage is consistent with a long-term decline nationally, especially among smaller businesses, that preceded the ACA.[3]

DOMAIN #1: HEALTH INSURANCE COVERAGE



*Difference is statistically significant at the 95% level. Source: 2012 and 2015 MEPS-IC. Estimates are for percent of private sector establishments that offer coverage by firm size.

FIGURE 1.1:
Employer Offer Rates by Private Sector Employers for Kentucky, 2012-2015

DOMAIN #2: ACCESS

The U.S. Institute of Medicine defines health care access as "the timely use of personal health services to achieve the best health outcomes."[4] Even among those with health insurance coverage, financial and non-financial access to care barriers can persist.[5] We use 6 indicators to monitor health care access in this report.[6] For the access domain we obtained data for the indicators from the National Health Interview Survey (NHIS). We include data for children under age 19 as well as non-elderly and elderly adults where data were available. In all cases, we present the most recent data available (2014), compared to the 2012 baseline.

Overall, the indicators show that health care access in Kentucky has been relatively stable since 2012.

As new data become available, future reports will continue to provide more insight about any impacts of the ACA's coverage expansions on access to health care services.

> "Overall, the indicators show that health care access in Kentucky has been relatively stable since 2012."

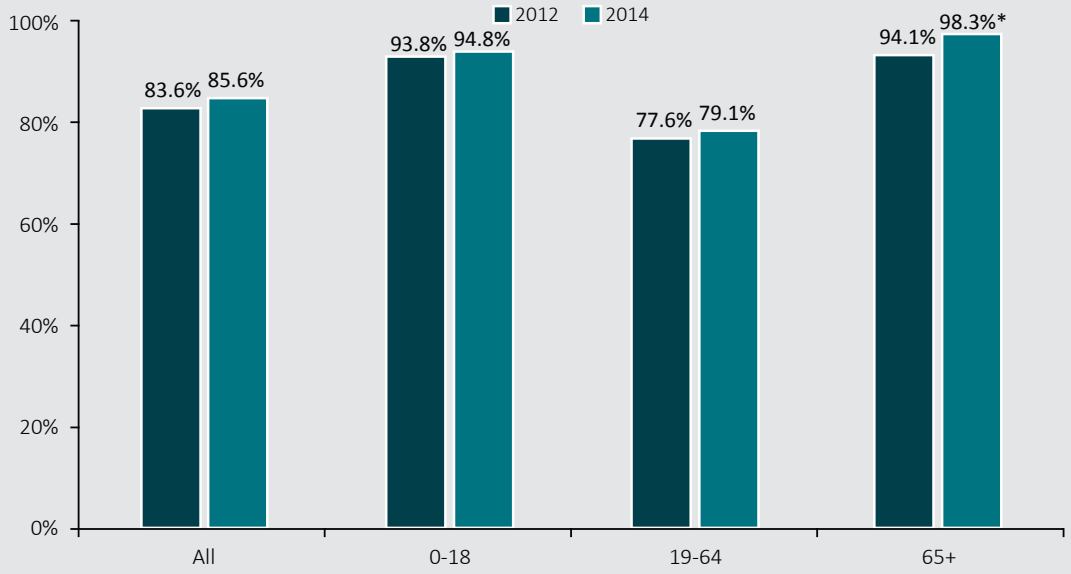
ACCESS MEASURES

Kentuckians Reporting a Usual Source of Care Remains Stable

Having a ***usual source of care*** is "a summary measure of adequate access to primary care,"[7] and some studies have found it to be even more important for health outcomes than having health insurance.[8] The measure we use from the NHIS asks, "Is there a place you usually go when you are sick or need advice about your health?" We also use responses to the follow up question: "What kind of place is it?" to make sure that emergency department visits were not considered to be a usual source of care.

Figure 2.1 presents the percentage of Kentuckians reporting a usual source of care (not including an emergency department) by age and over time. Each age group showed higher reporting of a usual source of care between 2012 and 2014, but the increase was only statistically significant for those 65 years and older. Overall, 85.6% of Kentuckians reported having a usual source of care in 2014. Elderly adults reported the highest usual source of care (98.3%), followed by children (94.8%) and non-elderly adults (79.1%).

FIGURE 2.1:
Usual Source of Care by Age Category, Kentucky, 2012-2014



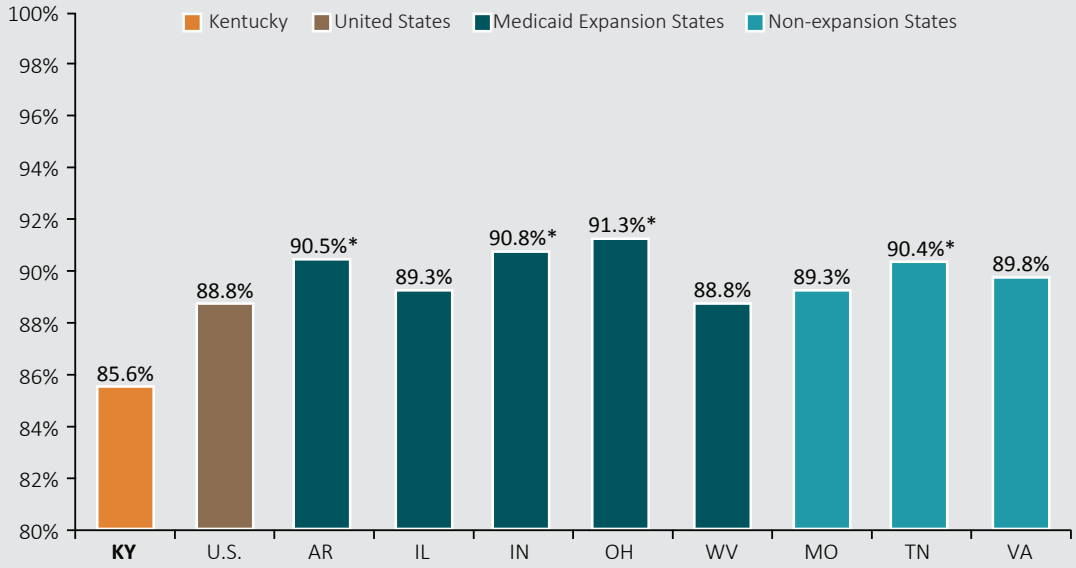
*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

For this measure, we also present comparisons between Kentucky, neighboring states, and the U.S. For these cross-state comparisons, we use two types of charts: The bar charts (e.g., Figure 2.2) indicate whether Kentucky's most recent estimates differ from the comparison states, while the plot-charts (e.g., Figure 2.3) present baseline and most-recent estimates for Kentucky and comparison states, and they indicate whether those within-state changes were statistically significant.

Figure 2.2 shows that in 2014, the percentage of Kentuckians with a usual source of care was significantly lower than that of four nearby states (Arkansas, Indiana, Ohio, and Tennessee). Only one state – Ohio – and the U.S. had significant increases in the overall rates of reported usual source of care (Figure 2.3). Although there was a relatively large difference between West Virginia's 2012 and 2014 estimates for this indicator, the difference was not statistically significant.[9]

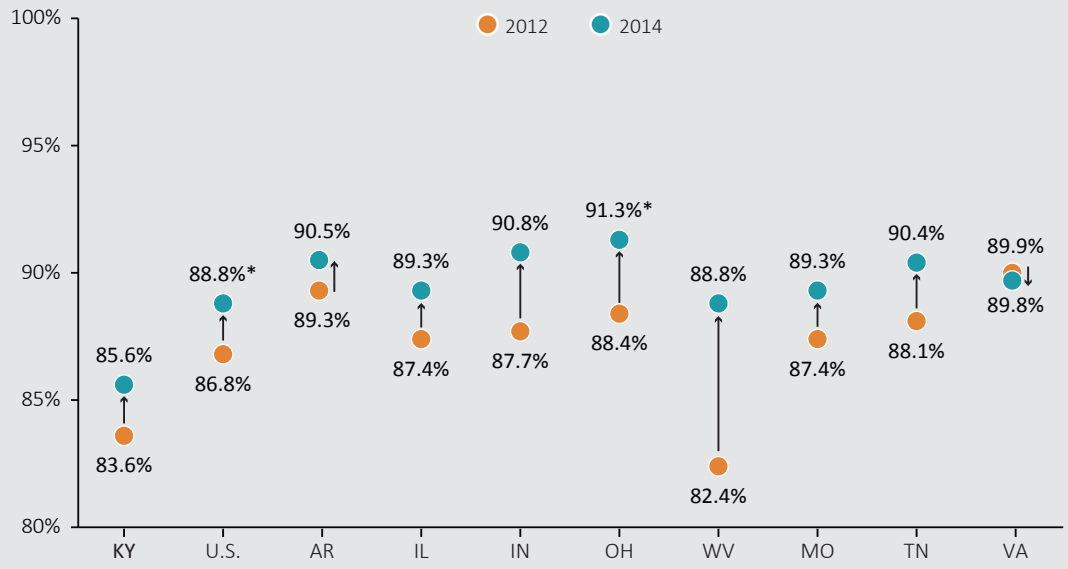
More Than 1 in 4 Reacting to Drug Costs

Another indicator of access is ***changes in prescription drug usage due to cost***. This is a summary measure that includes: asking the doctor for cheaper medications, delaying refills, taking less medication than prescribed, skipping dosages, using alternative therapies, and/or buying medications out of the country. This measure indicates whether people are making decisions based on cost that may negatively affect their health. For this indicator, we present 2014 estimates for non-elderly adults



*Difference is statistically significant across states (e.g., Kentucky vs. Arkansas) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2014 NHIS using the SHADAC Data Center. Note: While Indiana is a Medicaid expansion state, the state did not expand its Medicaid program until 2015.

FIGURE 2.2:
Usual Source of Care, Kentucky Compared to Neighboring States and U.S. Rate, 2014 (all ages)



*Difference is statistically significant within the state (e.g., Arkansas 2012 estimate vs. Arkansas 2014 estimate) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

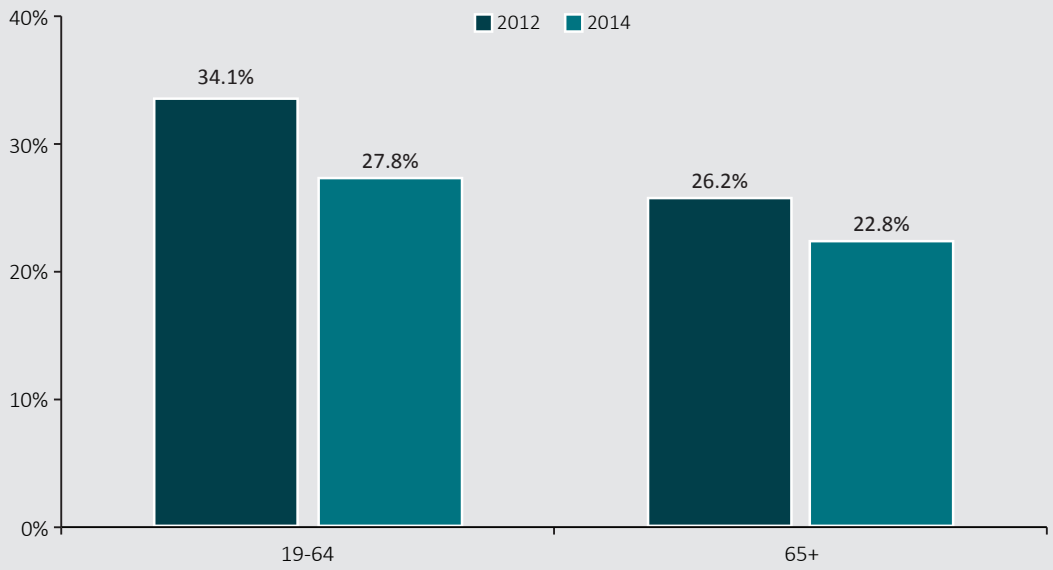
FIGURE 2.3:
Usual Source of Care, Kentucky Compared to Neighboring States and U.S. Rate, 2012-2014 (all ages)

(ages 19-64) and elderly adults (ages 65 and older), as compared to the 2012 baseline (Figure 2.4).

In 2014, 27.8% of non-elderly Kentuckians reported altering their prescription medications due to cost. Although this was a decrease of 6.3 percentage points from the 2012 rate of 34.1%, the change was not statistically significant. There was also a 3.4 percentage point decrease for elderly adults, those ages 65 and older, who reported skipping, delaying, or altering their prescription medications due to cost between 2012 (26.2%) and 2014 (22.8%), but this was not statistically significant.

> "In 2014, 27.8% Kentuckians reported altering their prescription medications due cost."

FIGURE 2.4:
Skipping, Delaying, or Altering Prescription Drug Use Due to Cost, Kentucky, 2012-2014 (ages 19-64 & 65+)



*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

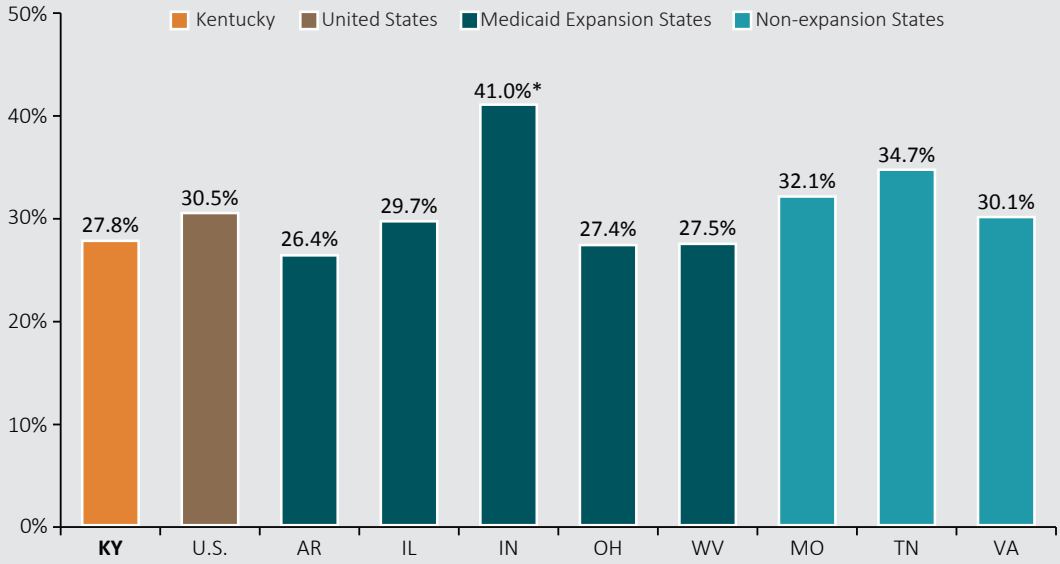
It will be important to follow this indicator as future years of data become available to determine whether statistically significant changes occur.

We also present comparisons between Kentucky, nearby states, and the U.S. for this measure (Figures 2.5 and 2.6). Indiana was the only neighboring state with a significantly higher rate than Kentucky of reporting skipping, delaying, or altering prescription drug use due to cost in 2014 (Figure 2.5). Figure 2.6 shows that only the U.S. and Indiana experienced significant increases in this measure between 2012 and 2014.

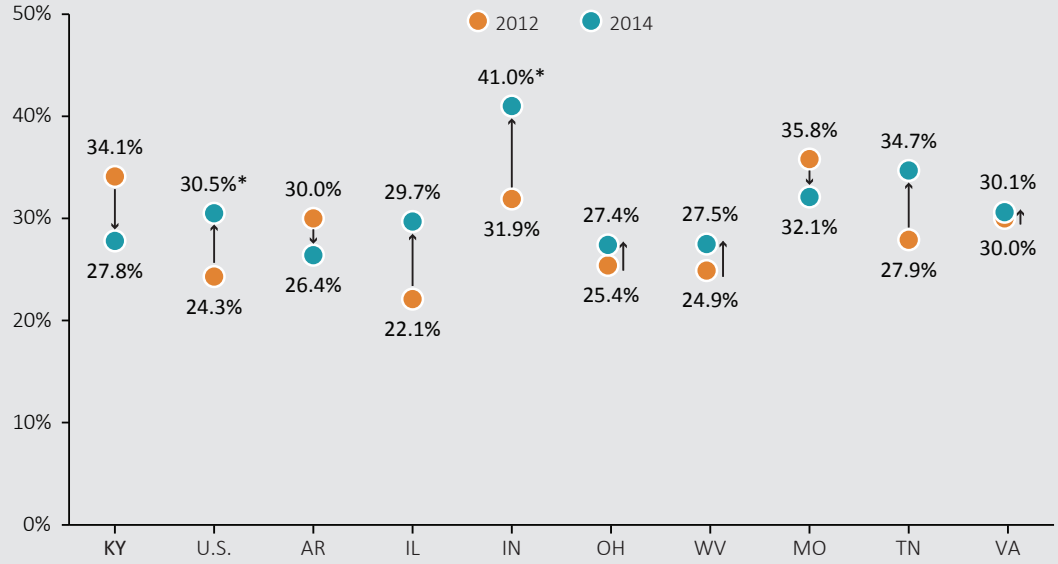
Elderly Adults, Children Reported Higher Shares Visiting a Health Care Provider

Having a visit with a health care provider during the past year is another way to gauge access to health care. For this measure, we include ***visits***

FIGURE 2.5:
Skipping, Delaying, or Altering Prescription Drug Use Due to Cost, Kentucky Compared to Neighboring States and U.S. Rate, 2014 (ages 19-64)

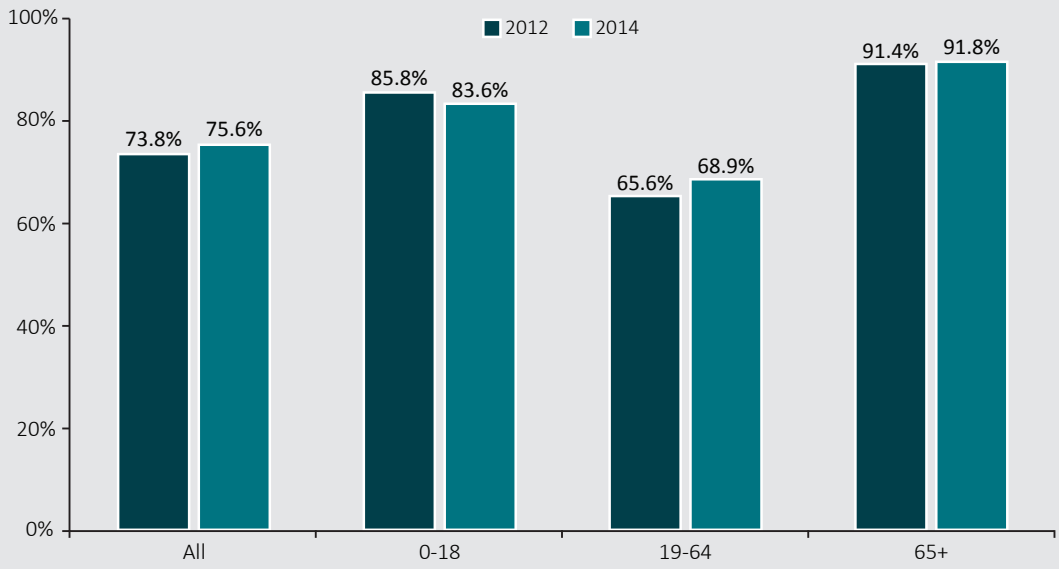


*Difference is statistically significant across states (e.g., Kentucky vs. Arkansas) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2014 NHIS using the SHADAC Data Center. Note: While Indiana is a Medicaid expansion state, the state did not expand its Medicaid program until 2015.



*Difference is statistically significant within the state (e.g., Arkansas 2012 estimate vs. Arkansas 2014 estimate) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

FIGURE 2.6:
Skipping, Delaying, or Altering Prescription Drug Use Due to Cost, Kentucky Compared to Neighboring States and U.S. Rate, 2012-2014 (ages 19-64)



*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

FIGURE 2.7:
Provider Visit in Past Year by Age Category, Kentucky, 2012-2014

to a general provider in the 12 months preceding the survey. Results show that these levels held steady with no significant change from 2012-2014. As was the case at baseline, in 2014, children and elderly adults continued to report the highest percentages of seeing a provider, 83.6% and 91.8%, respectively, compared to non-elderly adults (68.9%). Figure 2.7 presents the data by age category.

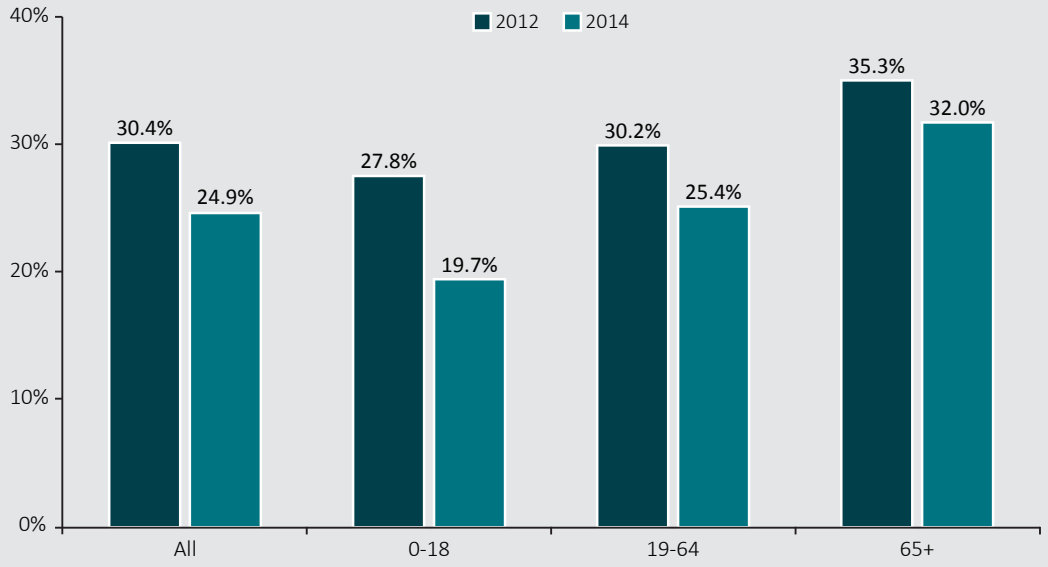
Kentuckians Using Emergency Department Stayed Stable in Past Year

We also examine the prevalence of *visits to an emergency department (ED) within the past year.* According to the Agency for Healthcare Research and Quality (AHRQ), "ED utilization reflects the greater health needs of the surrounding community and may provide the only readily available care for individuals who cannot obtain care elsewhere. Many ED visits are 'resource sensitive' and

potentially preventable, meaning that access to high-quality, community-based health care can prevent the need for a portion of ED visits."[10]

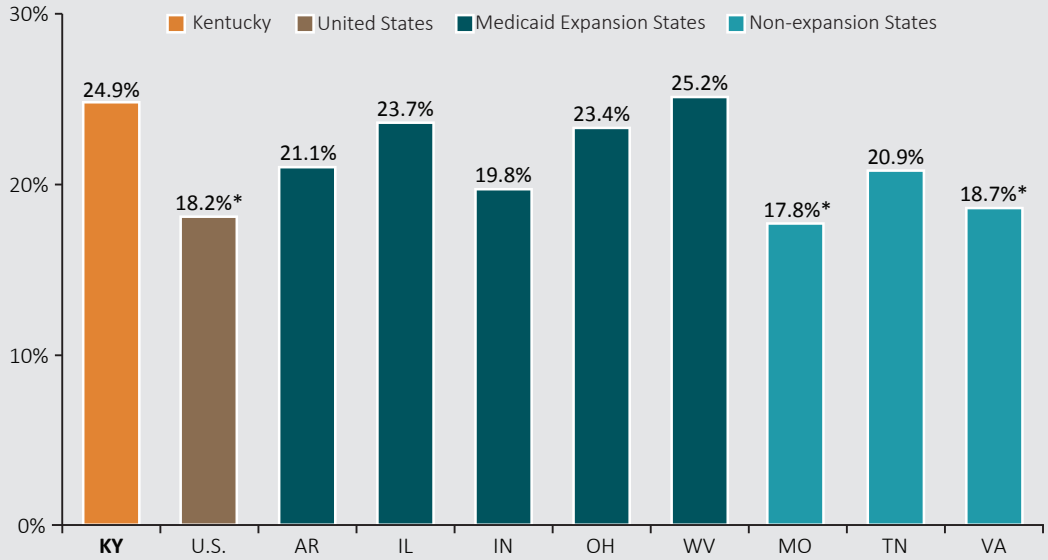
Figure 2.8 presents the 2012-2014 ED visit data by age. While the estimates for ED use for Kentuckians overall and for each age group were lower in 2014, this did not represent a statistically significant change since the 2012 baseline. Elderly Kentuckians continued to report the highest visits to an ED, at 32.0%, followed by non-elderly adults (25.4%), and children (19.7%). As with the other access indicators, it will be important to follow ED use as future data become available to determine whether statistically significant changes emerge. For this measure, we also present comparisons between Kentucky and neighboring states (Figures 2.9 and 2.10). In 2014, although Kentucky's ED use was lower than 2012, it was still significantly higher than the U.S. average (18.2%) and that of two neighboring states (Missouri and Virginia). None of the comparison states had ED use that

FIGURE 2.8:
Emergency Department Visits in the Past Year by Age Category, Kentucky, 2012-2014

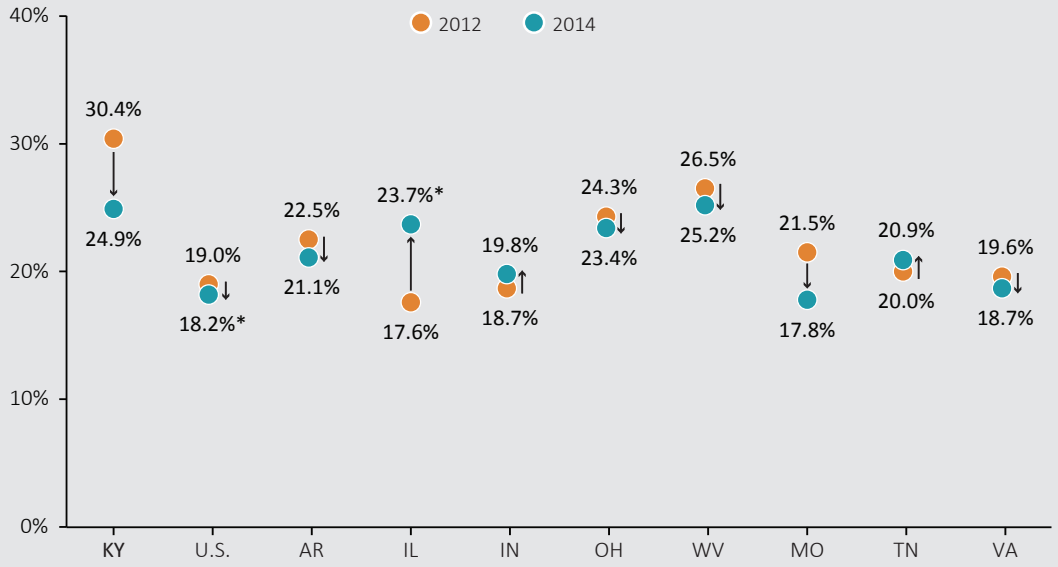


*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

FIGURE 2.9:
Emergency Department Visits in the Past Year, Kentucky Compared to Neighboring States and U.S. Rate, 2014 (all ages)



*Difference is statistically significant across states (e.g., Kentucky vs. Arkansas) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2014 NHIS using the SHADAC Data Center. Note: While Indiana is a Medicaid expansion state, the state did not expand its Medicaid program until 2015.



*Difference is statistically significant within the state (e.g., Arkansas 2012 estimate vs. Arkansas 2014 estimate) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

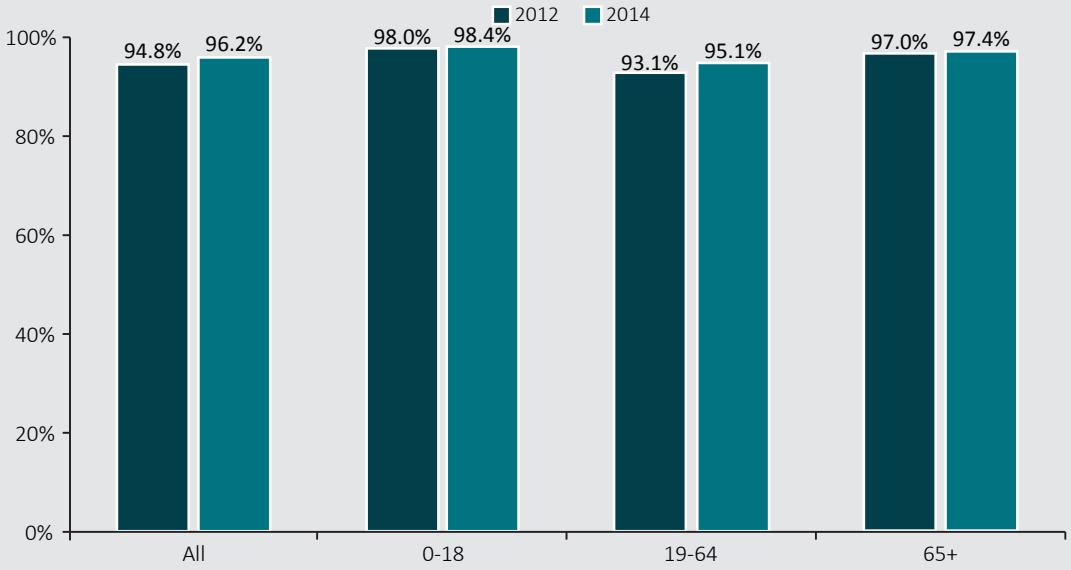
FIGURE 2.10: Emergency Department Visits in the Past Year, Kentucky Compared to Neighboring States and U.S. Rate, 2012-2014 (all ages)

was significantly higher than Kentucky (six states had rates statistically indistinguishable from Kentucky).

Figure 2.10 shows how Kentucky's ED use has changed between 2012 and 2014 compared to changes in ED use in neighboring states. Like Kentucky, most states did not experience a statistically significant change in ED use; only the U.S. experienced a significant decline in ED use, while Illinois saw a significant increase in ED use.

More Than 9 in 10 Kentuckians Able to Find a Doctor When Needed

Being able to find a doctor when needed is an important component of health access. In 2014, 96.2% of Kentuckians surveyed said that they were able to find a doctor when needed, and this was not statistically different from 2012. Figure 2.11 shows provider availability across age categories; there were no significant changes from 2012-2014.

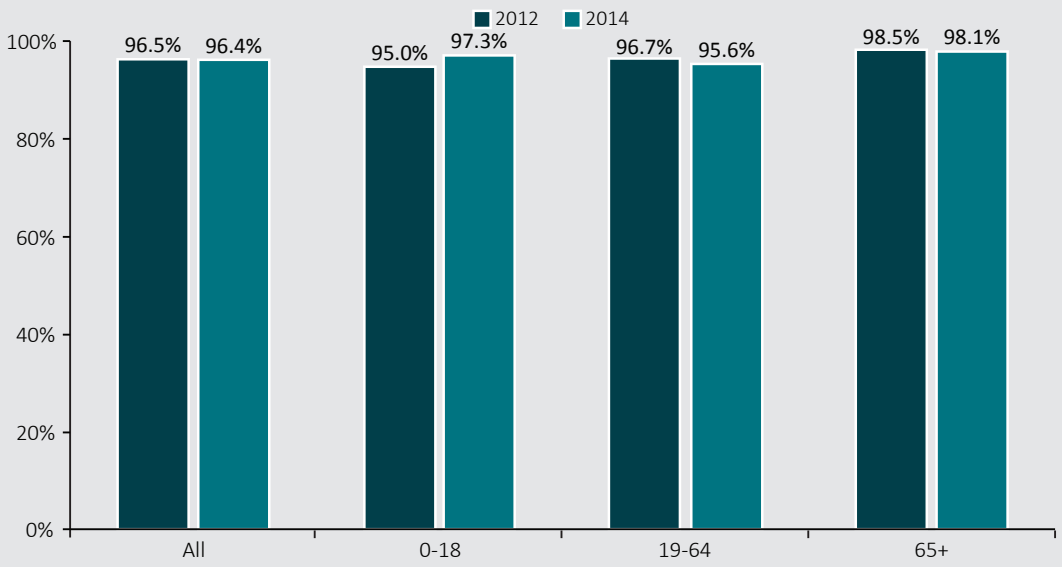


*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

FIGURE 2.11: Found Doctor When Needed by Age Category, Kentucky, 2012-2014

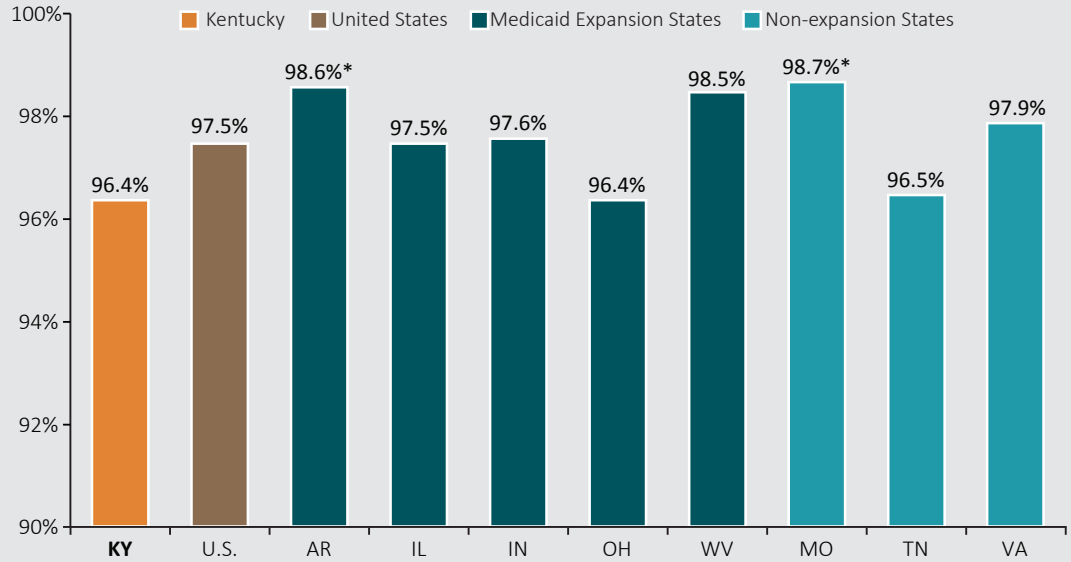
In addition to finding a doctor, some people also face barriers with ***providers not accepting their insurance coverage***. From 2012-2014, there was no significant change in Kentucky for the rate of people reporting that providers would accept their coverage, with 96.4% of Kentuckians reporting acceptance in 2014 compared to 96.5% in 2012 (Figure 2.12). Figure 2.13 presents this information for neighboring states and the U.S. for all ages. Two states had significantly higher rates than Kentucky of individuals reporting that providers accepted their insurance: Arkansas (98.6%) and Missouri (98.7%). The remaining neighboring states and the U.S. had rates that were not statistically different from Kentucky's. From 2012 to 2014, only West Virginia and the U.S. had significant increases in the rate of patients reporting acceptance of their insurance coverage (Figure 2.14). No states experienced significant declines.

FIGURE 2.12:
Told Provider Accepts Insurance by Age Category, Kentucky, 2012-2014

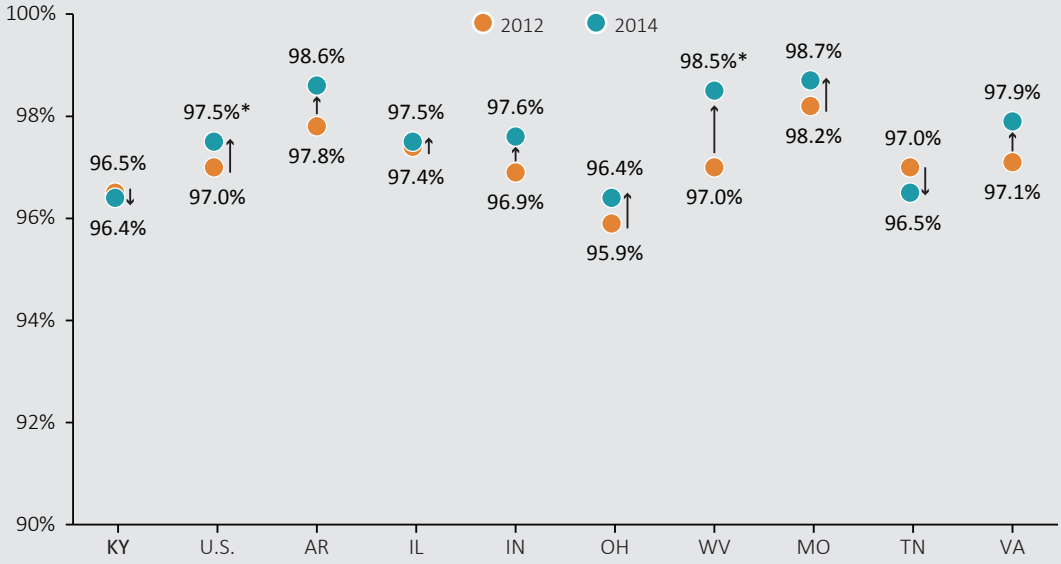


*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

FIGURE 2.13:
Told Provider Accepts Insurance, Kentucky Compared to Neighboring States and U.S. Rate, 2014 (all ages)



*Difference is statistically significant across states (e.g., Kentucky vs. Arkansas) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2014 NHIS using the SHADAC Data Center. Note: While Indiana is a Medicaid expansion state, the state did not expand its Medicaid program until 2015.



*Difference is statistically significant within the state (e.g., Arkansas 2012 estimate vs. Arkansas 2014 estimate) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

FIGURE 2.14:
Told Provider Accepts Insurance, Kentucky Compared to Neighboring States and U.S. Rate, 2012-2014 (all ages)

DOMAIN #3: COST

Health care costs are a topic of concern for many families, with out-of-pocket costs—including premiums, co-pays, co-insurance, and deductibles—often varying substantially by benefit plan. This is especially important in Kentucky, where the most recent estimates (2014) show that 19.1% of the population is living below the poverty level (less than 100% FPG), compared to 15.5% nationwide. Kentucky's poverty rate is the 5th highest in the country (see Figure 3.1 for additional detail on Federal Poverty Guidelines [FPG]).[11,12]

Because nearly half of Kentucky private-sector employers offer health insurance, health care costs also are a concern for employers. We include five metrics related to cost in this report, focusing primarily on individual or household spending. We also include a measure of premiums for employer-sponsored insurance and one health system indicator — a measure of hospital uncompensated care that is aggregated across all reporting hospitals in Kentucky. Data sources for the cost measures include the NHIS and the MEPS-IC. Our uncompensated care measure was obtained from the Kentucky Cabinet for Health and Family Services.[13] The majority of the estimates in the cost domain include all ages.

Most of these indicators are only available through 2014. As new data become available, we will continue to track any changes in this domain in subsequent annual and semi-annual reports.

FIGURE 3.1:
Federal Poverty Guidelines, 2014

	Single Person	Family of Four
100% FPG	$11,670	$23,850
138% FPG	$16,105	$32,913
200% FPG	$23,340	$47,700

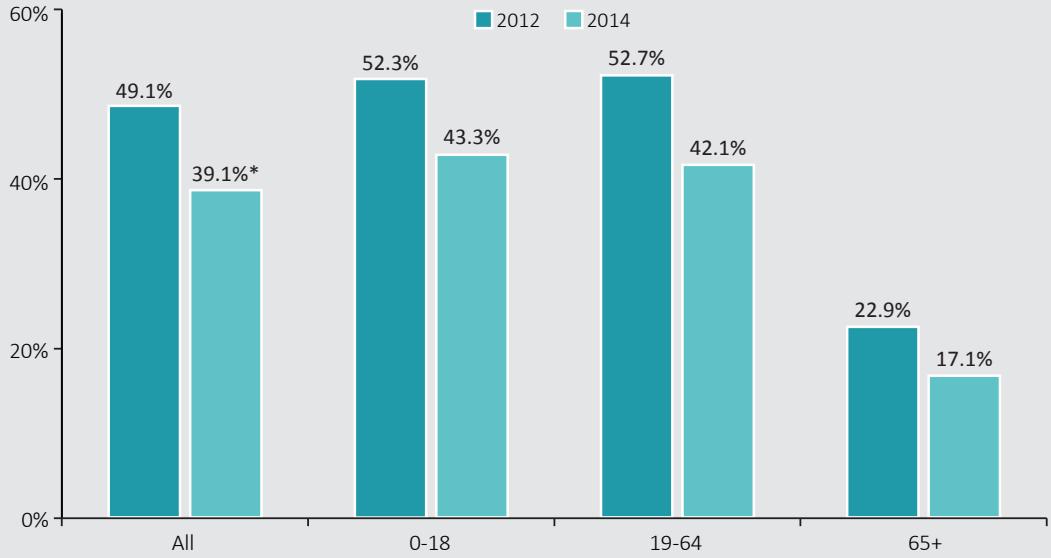
Source: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, 2014 Poverty Guidelines. Accessible at: https://aspe.hhs.gov/2014-poverty-guidelines.

COST MEASURES

Kentuckians Reporting Trouble Paying Medical Bills Dropped Between 2012 & 2014

Overall, 39.1% of Kentuckians in 2014 reported that their families had trouble paying medical bills — a statistically significant drop of 10.0 percentage points from 2012 (Figure 3.2). However, we did not find a significant change for any of the age subgroups (children, non-elderly adults, elderly adults). This finding comes from SHADAC analysis of the NHIS, which asks, *"In the past 12 months did [you/anyone in the family] have problems paying or were unable to pay any medical bills?*

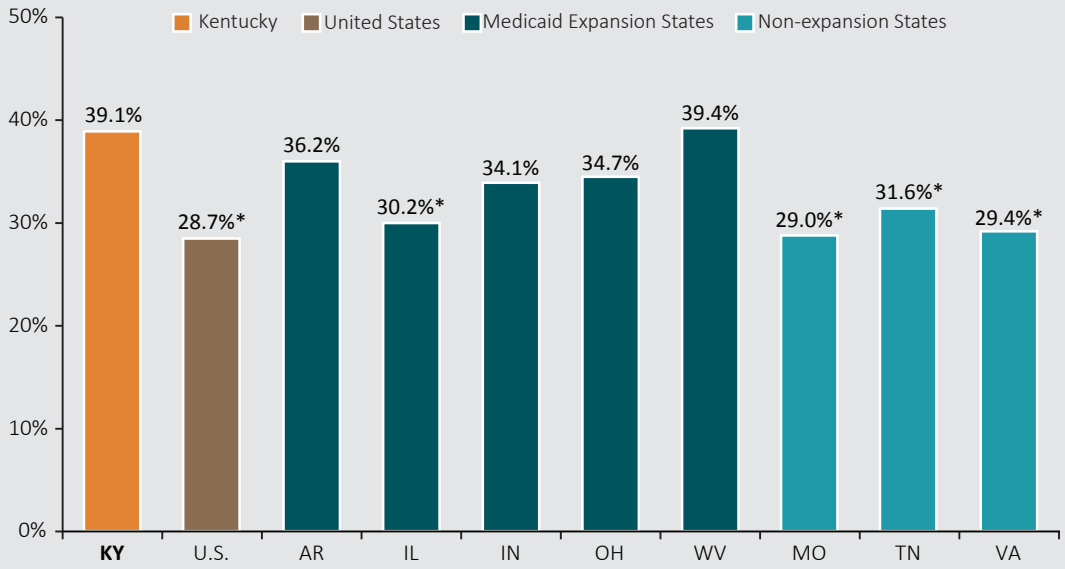
FIGURE 3.2:
Trouble Paying Medical Bills by Age Category, Kentucky, 2012-2014



*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center. The estimate reports the percentage of people who had trouble paying off medical bills in the last year or were currently paying off medical bills.

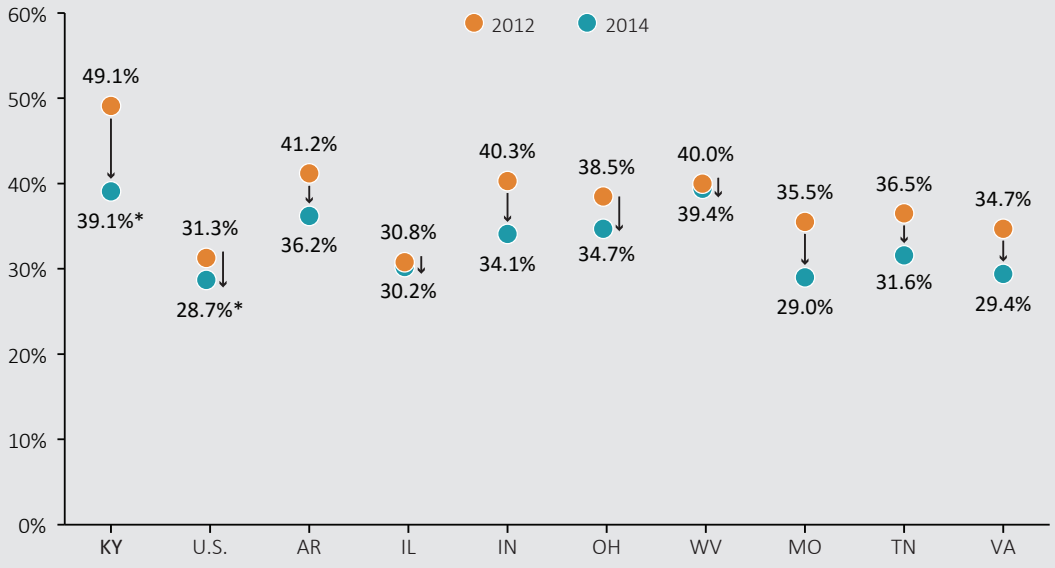
Include bills for doctors, dentists, hospitals, therapists, medication, equipment, nursing home, or home care." We also compared this metric to the U.S. rate and to Kentucky's neighboring states in Figure 3.3. Kentucky had a significantly higher percentage of people reporting trouble paying medical bills compared to the U.S. Kentucky's rate also was significantly higher than Illinois, Missouri, Tennessee, and Virginia. No state had a rate that was significantly higher than Kentucky's.

Figure 3.4 shows how Kentucky's performance on this indicator has changed between 2012 and 2014 compared to changes in neighboring states. Only Kentucky and the U.S. had a significant decrease in the percent of people reporting that their families had trouble paying medical bills. Kentucky's 10.0 percentage point drop was nearly 4 times as large as the U.S. drop of 2.6 percentage points, but more Kentuckians still reported trouble paying medical bills in 2014.



*Difference is statistically significant across states (e.g., Kentucky vs. Arkansas) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2014 NHIS using the SHADAC Data Center. The estimate reports the percentage of people who had trouble paying off medical bills in the last year or were currently paying off medical bills. Note: While Indiana is a Medicaid expansion state, the state did not expand its Medicaid program until 2015.

FIGURE 3.3: Trouble Paying Medical Bills, Kentucky Compared to Neighboring States and U.S. Rate, 2014 (all ages)



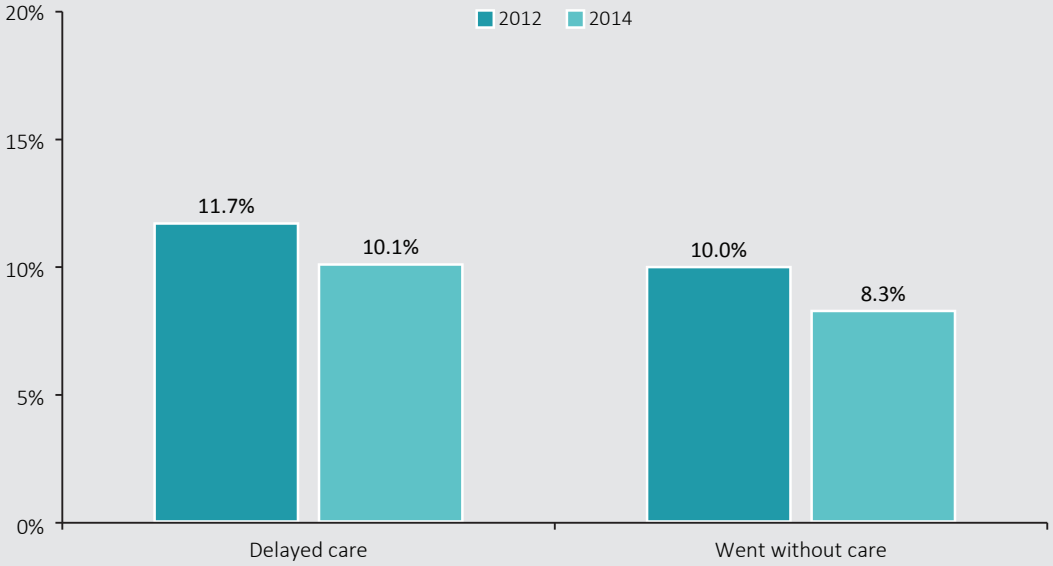
*Difference is statistically significant within the state (e.g., Arkansas 2012 estimate vs. Arkansas 2014 estimate) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

FIGURE 3.4: Trouble Paying Medical Bills, Kentucky Compared to Neighboring States and U.S. Rate, 2012-2014 (all ages)

No Significant Change in Delaying or Skipping Care Due to Cost

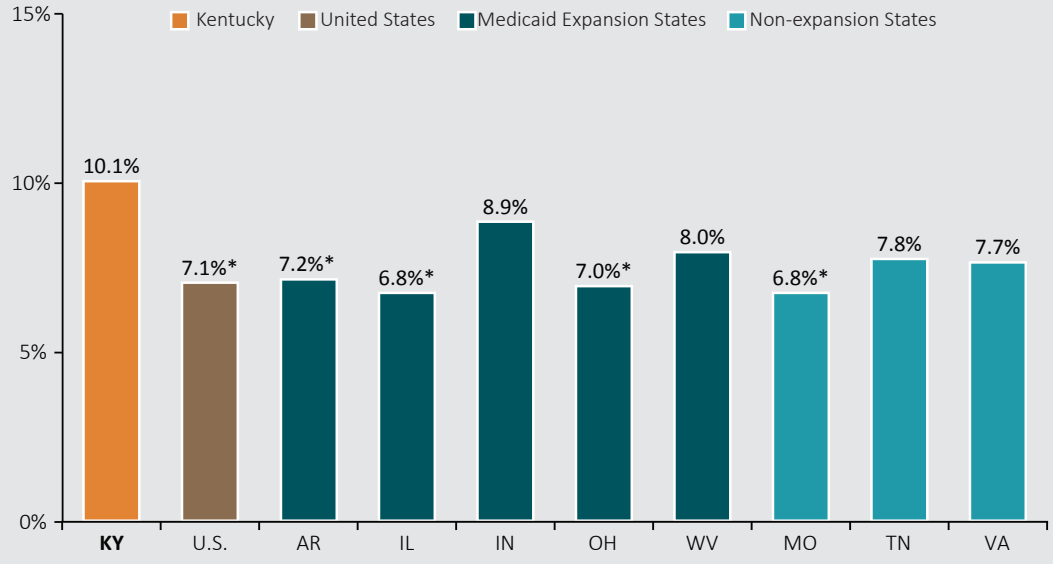
Delaying or going without needed medical care can be a major impediment to good health outcomes. It may cause serious conditions to go undetected or become worse by being left untreated, resulting in poorer health status and higher treatment costs. Cost is a reason frequently cited for delaying or going without medical care. In 2014, 10.1% of Kentuckians of all ages reported *delaying needed care due to cost* (Figures 3.5), but this was not statistically different from 2012. Figure 3.6 shows how the rate of those who delayed needed care due to cost in Kentucky compares to the rates in neighboring states and the U.S. in 2014. The U.S. rate (7.1%) and the rates of four neighboring states—Arkansas, Illinois, Missouri, and Ohio—were significantly lower than in Kentucky. The rates of the remaining four states were not statistically different.

FIGURE 3.5:
Delayed or Went Without Needed Care Due to Cost, Kentucky, 2012-2014 (all ages)



*Difference is statistically significant at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center. These estimates report the percentage of people who delayed seeking medical care because of worry about the cost and the percentage of people who needed medical care but did not get it because they could not afford it in the last year.

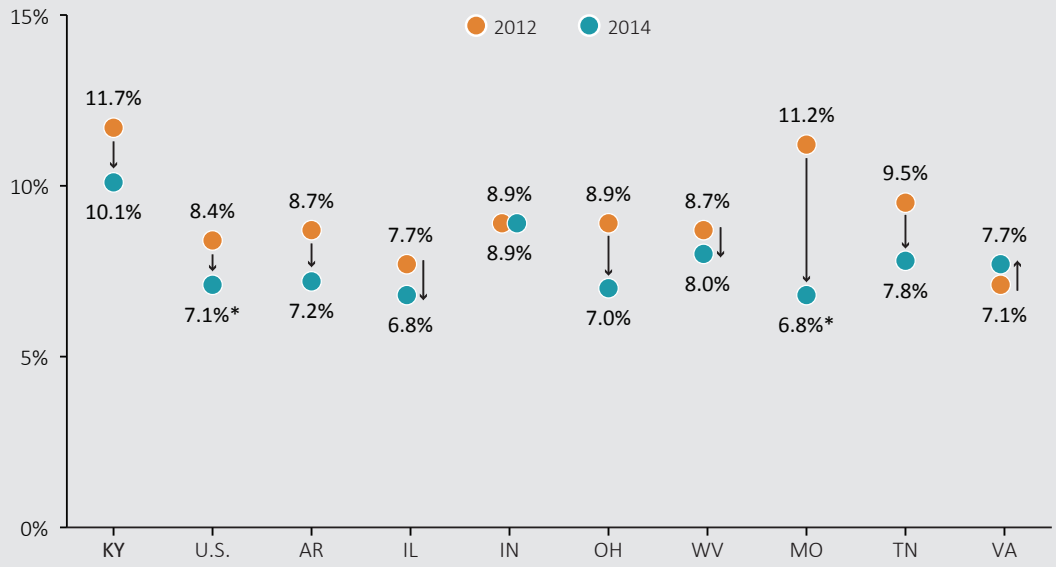
FIGURE 3.6:
Delayed Needed Care Due to Cost, Kentucky Compared to Neighboring States and U.S. Rate, 2014 (all ages)



*Difference is statistically significant across states (e.g., Kentucky vs. Arkansas) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2014 NHIS using the SHADAC Data Center.

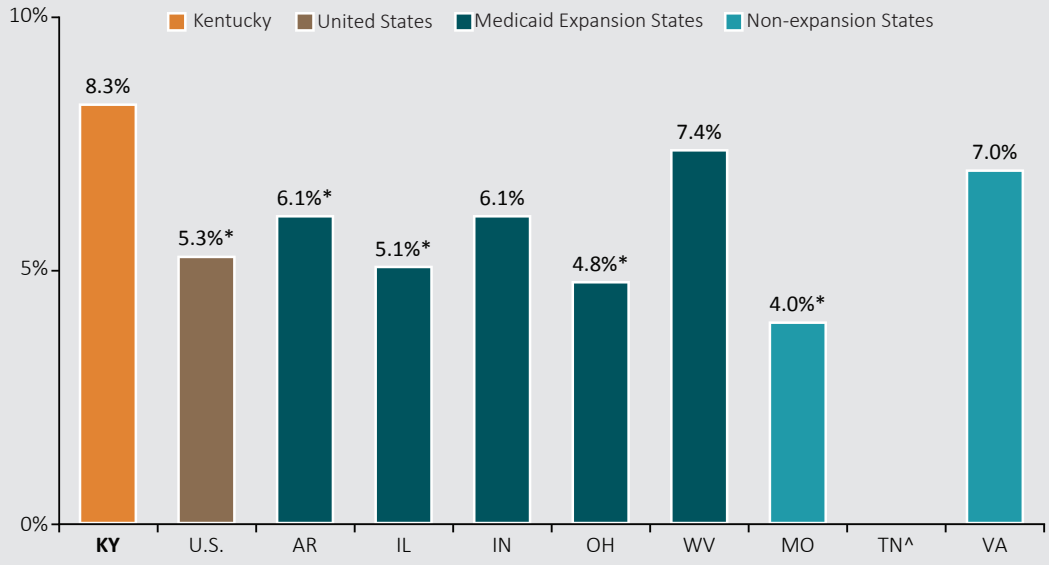
Figure 3.7 shows how the rate of those who delayed needed care due to cost changed between 2012 and 2014 compared to changes in neighboring states and the U.S. Only the U.S. and Missouri experienced statistically significant declines from 2012 to 2014.

Figure 3.5 also displays results for ***going without needed care due to cost***. In 2014, 8.3% of all Kentuckians reported going without needed care. As with delayed care, this was not a significant change from the 2012 baseline. Kentucky's rate of forgone care was significantly higher than the U.S. rate and the rates for four neighboring states; it was not significantly different than Indiana, Virginia or West Virginia (Figure 3.8; 2014 data were not available for Tennessee).



*Difference is statistically significant within the state (e.g., Arkansas 2012 estimate vs. Arkansas 2014 estimate) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

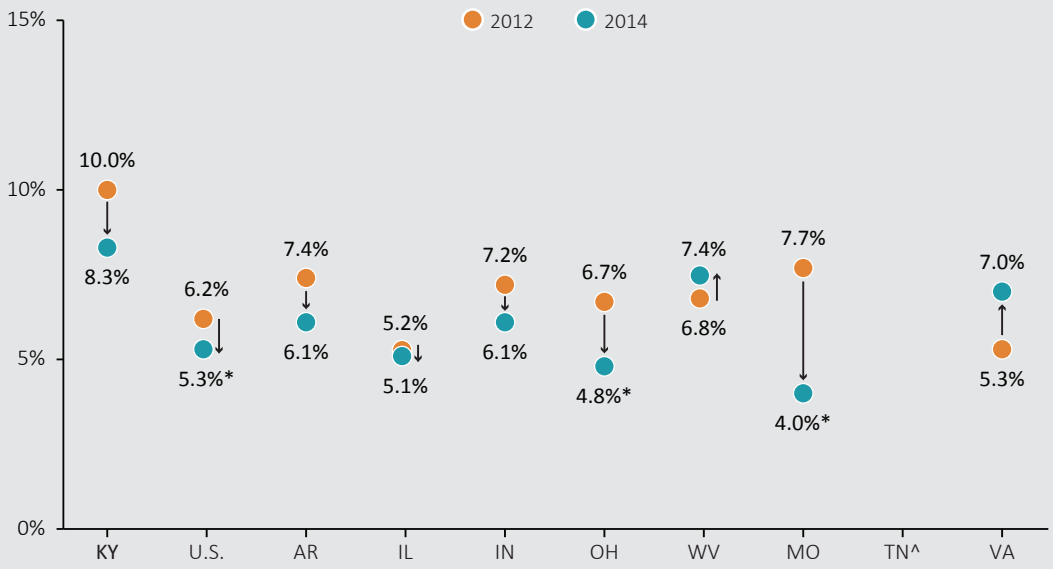
FIGURE 3.7:
Delayed Needed Care Due to Cost, Kentucky Compared to Neighboring States and U.S. Rate, 2012-2014 (all ages)



*Difference is statistically significant across states (e.g., Kentucky vs. Arkansas) at the 95% level. Source: SHADAC analysis of the civilian non-institutional population in the 2014 NHIS using the SHADAC Data Center. Note: While Indiana is a Medicaid expansion state, the state did not expand its Medicaid program until 2015. ^Data were not available from Tennessee for this indicator.

FIGURE 3.8:
Went Without Needed Care Due to Cost, Kentucky Compared to Neighboring States and U.S. Rate, 2014 (all ages)

FIGURE 3.9:
Went Without Needed Care Due to Cost, Kentucky Compared to Neighboring States and U.S. Rate, 2012-2014 (all ages)



*Difference is statistically significant within the state (e.g., Arkansas 2012 estimate vs. Arkansas 2014 estimate) at the 95% level. ^Data were not available from Tennessee for this indicator. Source: SHADAC analysis of the civilian non-institutional population in the 2012 and 2014 NHIS using the SHADAC Data Center.

Figure 3.9 shows how the rate of those who went without needed care due to cost changed between 2012 and 2014 compared to changes in neighboring states and the U.S. Only the U.S. rate and those for Missouri and Ohio decreased significantly.

Hospital Charity Care and Self-Pay Charges Declined 77%

Figure 3.10 presents data on hospital charity care and other care to uninsured Kentuckians (i.e., self-pay charges), which we use as a proxy for uncompensated care. It is important to note that these data do not include bad debt from people with insurance, such as if a person with coverage does not pay cost sharing (e.g., deductible) owed to the hospital. Across the country, states that have expanded Medicaid have experienced larger decreases in charity care compared to states that have not expanded Medicaid.[14] This may be due in part to expansion states having a greater number of people who now have more medical charges that are covered by insurance.

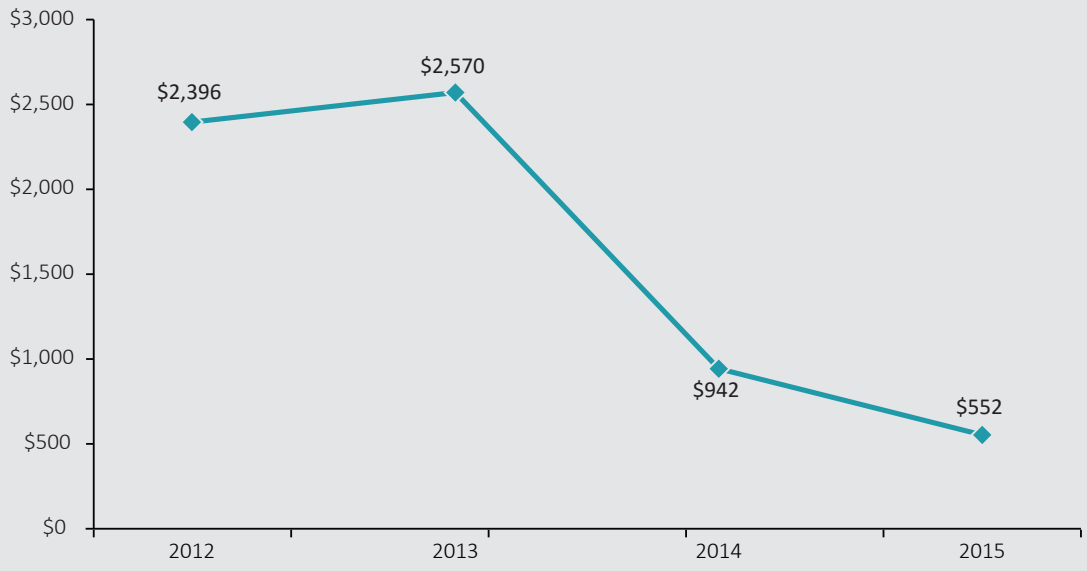
After a slight increase from 2012 to 2013, charity care and self-pay charges dropped substantially in 2014—the same year as Kentucky's implementation of Medicaid expansion and kynect.

Between our baseline year of 2012 and 2015, these uncompensated charges dropped 76.9%, from nearly $2.4 billion to $552 million. Due to the nature of these data, statistical significance testing comparing Kentucky rates over time was not performed for this measure.

Employer Coverage Premiums Increased for Single, Statistically Stable for Family Coverage

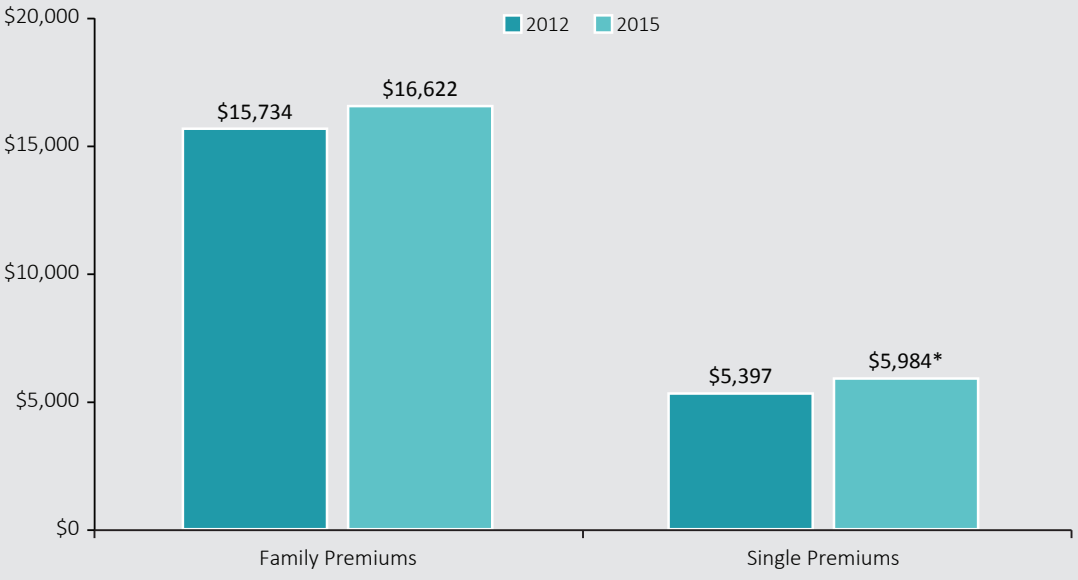
Figure 3.11 provides estimates of ***spending on health insurance premiums***. In 2015, the average single premium for private-sector employer-sponsored insurance was $5,984, a statistically significant increase of $587 since 2012. However, the average family premium for employer-based coverage ($16,622) was not significantly different from 2012. It is important to note that, like with long-term trends finding a decline in employers offering health insurance, premiums also have been increasing over the longer-term prior to the ACA.[3]

DOMAIN #3: COST



Source: SHADAC analysis of 2012 to 2015 data from the Kentucky Cabinet for Health and Family Services' Kentucky Outpatient Hospital Administrative Claims Data.

FIGURE 3.10:
Hospital Charity Care and Self-Pay Charges in Dollars (millions), Kentucky, 2012-2015



*Difference is statistically significant at the 95% level. Source: 2012 and 2015 MEPS-IC. These estimates represent the total annual premium cost.

FIGURE 3.11:
Average Premium per Private Sector Employee in Dollars, Kentucky, 2012-2015

DOMAIN #4: QUALITY

Achieving improvements in the quality of health care was a key goal of the ACA. There are a number of ways in which the law is focused on improving the quality of care, including avoiding preventable hospital readmissions, increasing the utilization of preventative care, and encouraging recommended health practices, such as breastfeeding for infants. For this data update, we include five metrics that relate to quality of care, with a focus on potentially preventable hospital admissions, hospital mortality, and behaviors that may impact health outcomes (e.g. unprotected sex among adolescents). For the quality domain, our data sources for this update include the Agency for Healthcare Research and Quality's (AHRQ) Healthcare Cost and Utilization Project (HCUP) and the Youth Risk Behavior Surveillance System (YRBSS), which is a survey conducted in partnership between states and the U.S. Centers for Disease Control and Prevention. Data in this domain are updated through 2014 for HCUP data and 2015 for YRBSS data. Generally, the indicators in this domain did not show much overall change between baseline levels and the most recent data years.

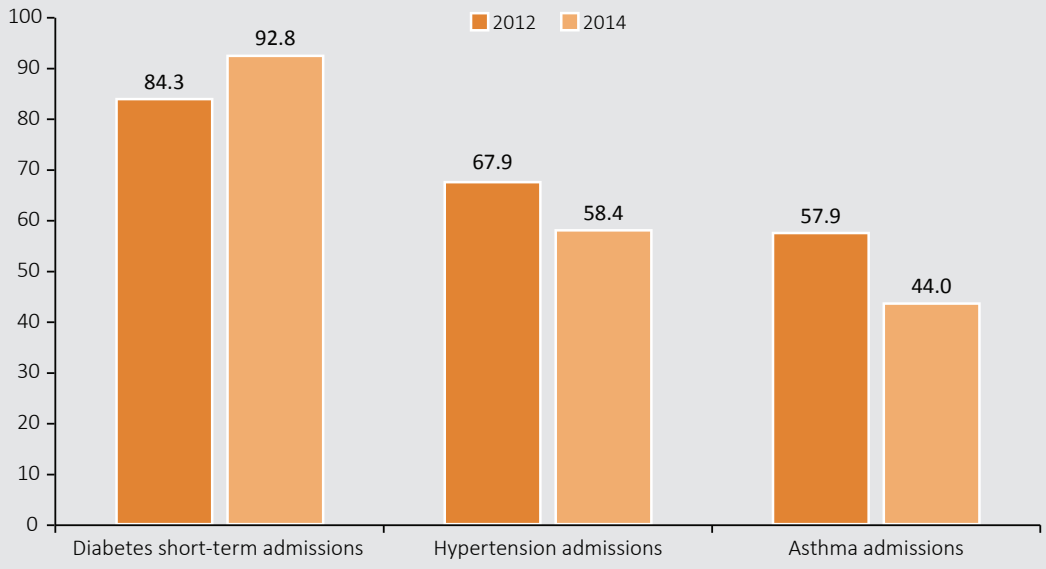
QUALITY MEASURES

Potentially Preventable Hospital Admissions

According to AHRQ, "one area where higher quality and lower costs coincide is potentially preventable hospital admissions—inpatient stays that could be prevented with high-quality primary and preventive care. High rates of these potentially preventable hospital admissions identify areas where possible improvements in the health care delivery system could be made to enhance patient outcomes and decrease costs."[15] In this study, we look at potentially avoidable hospitalizations for three chronic conditions: diabetes, hypertension, and asthma. The data for these come from AHRQ's HCUP dataset.[16]

Figure 4.1 presents data on potentially preventable hospitalizations as the number of hospitalizations per 100,000 adults. For diabetes short-term complications, approximately 93 out of 100,000 adults were admitted in 2014, an increase over 84 in 2012. In contrast, both hypertension- and asthma-related admissions decreased over the same period, with approximately 68 per 100,000 in 2012 and 58 per 100,000 in 2014 for hypertension, and 58 per 100,000 in 2012 and 44 per 100,000 in 2014 for asthma.

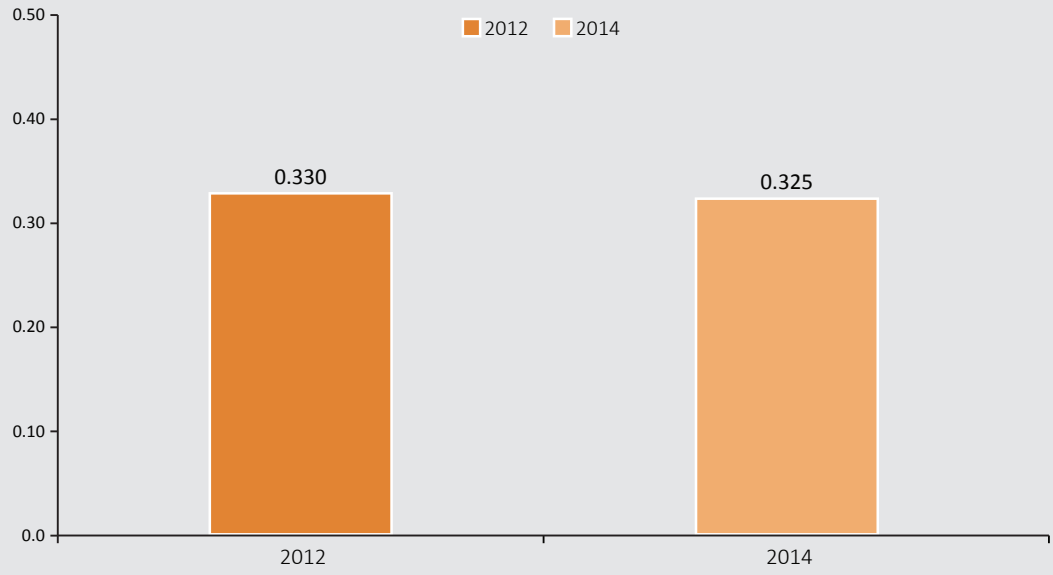
FIGURE 4.1:
Diabetes (ages 18+), Hypertension (ages 18+) and Asthma (ages 18-39) Hospital Admissions (per 100,000), Kentucky, 2012-2014



Source: SHADAC analysis of 2012 and 2014 HCUP data. These estimates report the Diabetes Short-term Complications Admission Rate for adults (PQI 1), the Hypertension Admission rate for adults (PQI 7), and the Asthma in Younger Adults Admission Rate (PQI 15).

Death Rate in Low Mortality Admissions Stable

Figure 4.2 shows the number of deaths per 1,000 patients of all ages who were hospitalized for conditions that typically do not result in mortality. All cases treated in hospitals are classified according to groups called diagnosis-related groups (DRGs). DRGs are used to help determine how much a hospital gets paid for its services, adjusted for severity and other factors.[17] Many DRGs (e.g., eye disorders, childbirth, knee procedures) are associated with low mortality rates and are used as one indicator of hospital quality; hospitals with high mortality rates associated with these low-mortality DRGs may provide lower quality care.[18] The mortality rate presented here is risk-adjusted to take into account patients' prior health status. Figure 4.2 shows that in 2014, Kentucky's mortality rate for "low-mortality DRGs" was 0.325 per 1,000, slightly lower than the state's 2012 baseline rate of 0.330 per 1,000.



Source: SHADAC analysis of 2012 and 2014 HCUP data. The estimate reports the "Dying in the Hospital while Getting Care for a Condition that Rarely Results in Death Rate" cases.

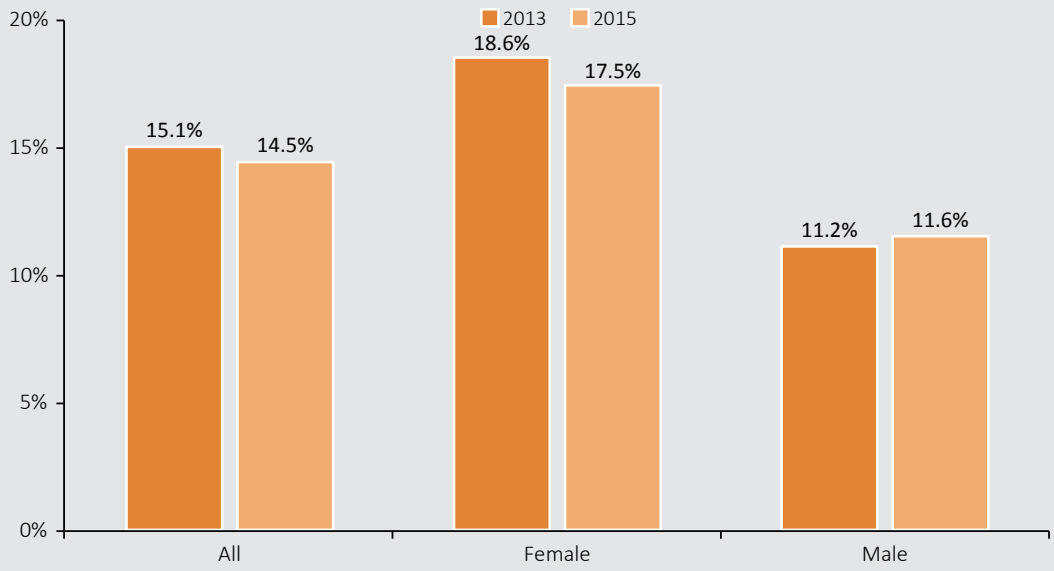
FIGURE 4.2:
Mortality Rate in Low Mortality DRGs (per 1,000 cases), Kentucky, 2012-2014 (all ages)

Unprotected Sex Among High School Students Remains Statistically Unchanged

The 2015 YRBSS provides estimates of unprotected sex (i.e., no use of any birth control) among high school students who reported that they were sexually active. This indicator was identified by the Foundation as an important part of the study's population health and prevention measures. Although the ACA includes certain provisions designed to increase access to contraception—such as requiring private health insurance plans to cover birth control prescribed by a health care provider with no cost-sharing—there are many factors that influence adolescents' use of contraception,[19] so the law is not expected to have a strong effect on use of birth control by high school students.

Figure 4.3 provides a snapshot of the 2013 baseline data and updated 2015 data for Kentucky. Among high school students, 14.5% reported engaging in unprotected sex during their last sexual intercourse in 2015, which was not statistically different from 2013. Female high school students reported higher rates of unprotected sex (17.5%) compared to males (11.6%) in 2015, although neither of these were statistically different than in 2013.

FIGURE 4.3:
Unprotected Sex Among High School Students, Kentucky, 2013-2015 (grades 9-12)



*Difference is statistically significant at the 95% level. Source: SHADAC analysis of 2013 and 2015 Youth Risk Behavior Surveillance System data. The estimate reports the percentage of high school students who did not use any method to prevent pregnancy during their last sexual intercourse.

DOMAIN #5: HEALTH OUTCOMES

Health outcomes are determined by a combination of factors including genetics, behaviors, environmental exposures, social factors, and health care services and policies.[20] Although the determinants are complex, the outcome measures included in this report are at least partially influenced by access to high-quality care. While health outcomes are slow to change at a state or national level, monitoring them is key to understanding the impacts of efforts to improve health in Kentucky. In this report, we provide updates to two measures of health outcomes: self-reported obesity and cigarette use. These measures are based on data from the Behavioral Risk Factor Surveillance System (BRFSS) and YRBSS.

Overall, the health outcomes measures were relatively stable between 2012 and 2014. Kentucky continued to perform less favorably for these measures when compared to the U.S. overall.

> "The health outcomes measures were relatively stable between 2012 and 2014."

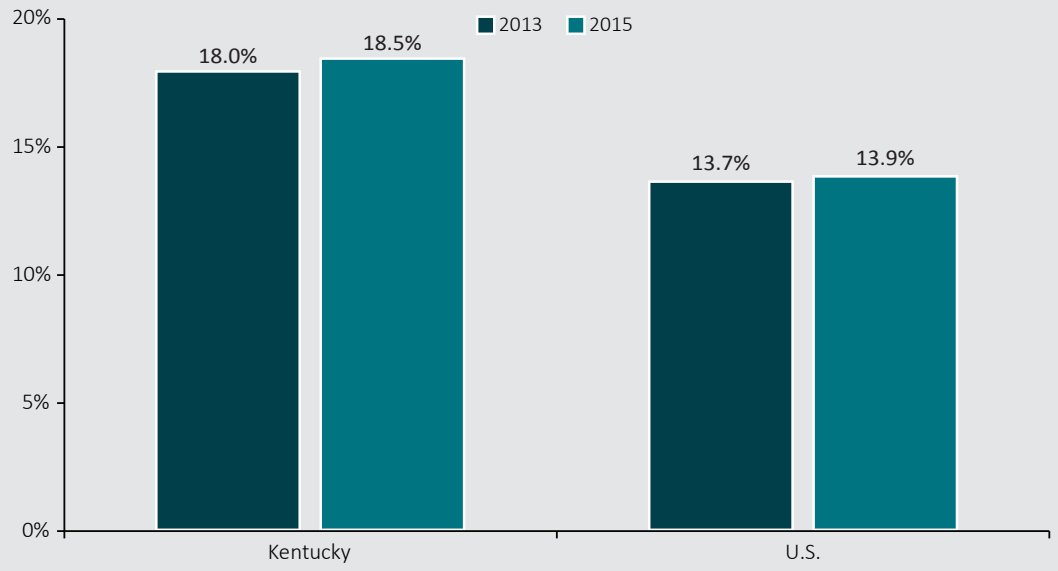
HEALTH OUTCOMES MEASURES

Obesity Rate Remains Stable for Kentucky's High School Students

Obesity is associated with a range of chronic conditions, including heart disease, high blood pressure, and diabetes.[21] Obesity is prevalent among adults and children in the U.S., though rates among children have stabilized in recent years.[22] Figure 5.1 shows estimates of the ***prevalence of self-reported obesity*** among high school students in Kentucky from 2013-2015.

Nearly one in five high school students (18.5%) in Kentucky indicated they were obese in 2015, which was statistically unchanged from 2013. Although Kentucky's adolescent obesity rates were higher than the U.S., their statistical stability was consistent with the U.S. While this measure could potentially be affected by improved health insurance coverage and access, it would likely take substantial time for this change to occur.

DOMAIN #5: HEALTH OUTCOMES

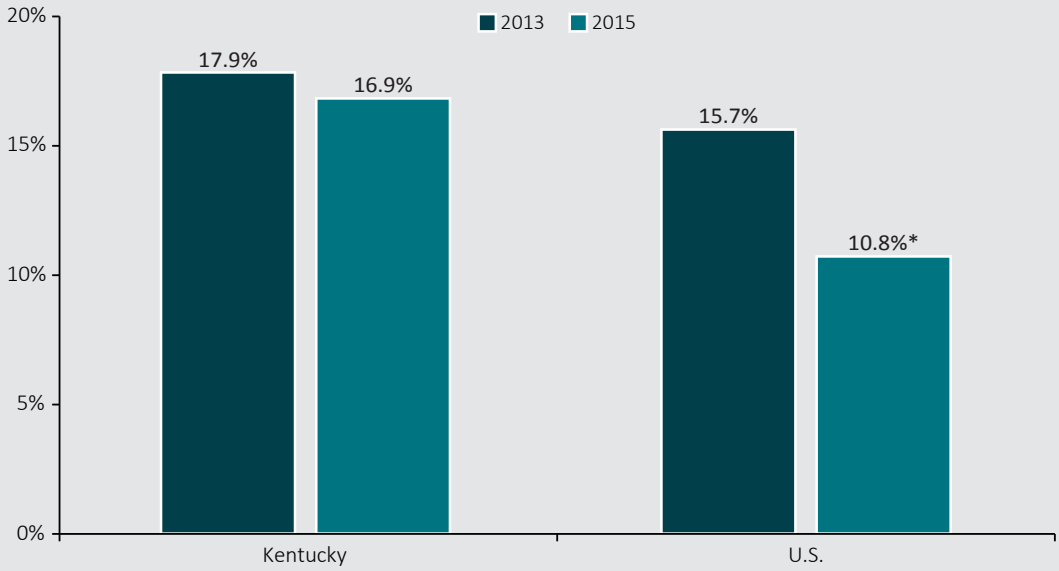


*Difference is statistically significant at the 95% level. Source: SHADAC analysis of 2013 and 2015 Youth Risk Behavior Surveillance System data.

FIGURE 5.1:
Self-Reported Obesity, Kentucky and U.S., 2013-2015 (high school students, grades 9-12)

Cigarette Use Declines Significantly Among Adults; Stable for High School Students

The ACA incorporated certain policies to discourage tobacco use and to provide people resources to quit. For example, the law allows insurers to charge higher premiums to people who use tobacco, and the law also requires that private health insurance cover certain recommended preventive health care services, including tobacco-cessation benefits, with no cost-sharing.[23] Since the most-recent study report, SHADAC has added two new indicators to measure tobacco use: Figures 5.2 and 5.3 show estimates of the ***prevalence of cigarette use*** among high school students and adults in both Kentucky and the U.S. Overall, Kentucky's rates of cigarette use among high school students and adults remained higher than the U.S. rates.

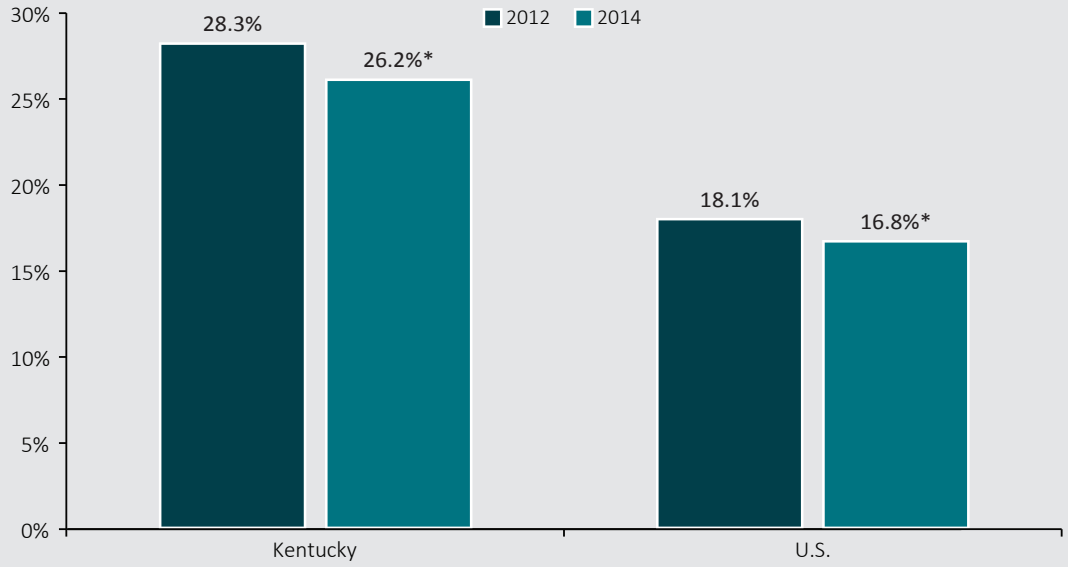


*Difference is statistically significant at the 95% level. Source: SHADAC analysis of 2013 and 2015 Youth Risk Behavior Surveillance System data. The estimate reports the percentage of high school students who currently smoked cigarettes, on at least 1 day during the 30 days before the survey.

FIGURE 5.2:
Cigarette Use, Kentucky and U.S., 2013-2015, (high school students, grades 9-12)

While U.S. rates of cigarette use among high school students decreased significantly from 15.7% in 2013 to 10.8% in 2015, Kentucky's rates were higher than the U.S. average and remained statistically unchanged, at 16.9% in 2015 (Figure 5.2). In contrast, Figure 5.3 shows that cigarette use among adult Kentuckians decreased significantly from 28.3% in 2012 to 26.2% in 2014; this is consistent with the significant decline seen in the U.S. rate of cigarette use for adults (18.1% in 2012 and 16.8% in 2014).

FIGURE 5.3:
Cigarette Use, Kentucky and U.S., 2012-2014, (adults 18+)



*Difference is statistically significant at the 95% level. Source: SHADAC analysis of 2012 and 2014 Behavioral Risk Factor Surveillance System data. The estimate reports the percentage of adults who have smoked 100 or more cigarettes in their lifetime and who currently smoke some days or every day.

III. STUDY FINDINGS: KENTUCKY HEALTH REFORM SURVEY

As part of the ***Study of the Impact of Implementation of the Affordable Care Act (ACA) in Kentucky,*** we conducted a one-time survey of non-elderly adults in the Commonwealth to assess a set of indicators post-implementation of the ACA in Kentucky. The Kentucky Health Reform Survey (K-HRS) addressed several key domains, including coverage status; experiences navigating Kentucky's state-based marketplace, kynect; affordability of health care; access to health care; and health status. The K-HRS was a dual-framed landline and cell phone survey implemented between March 31 and May 3, 2016. The survey employed the methodology used by the annual Kentucky Health Issues Poll (KHIP) and included many of the same questions, which will allow us to compare K-HRS findings to findings from this annual Kentucky survey and delve deeper into several policy-relevant areas.

While future reports will present additional in-depth analyses, including trend analyses of K-HRS and KHIP findings, this report provides a discussion around the several timely findings that relate to Kentucky's ongoing health care reforms: uninsurance, consumer experience navigating the marketplace, concern about losing coverage, forgone or delayed care due to cost, dental coverage and care, and emergency department use.

We analyze these outcomes using a set of variables to explore differences for some sub-groups: coverage status and type, sex, race, education, household income, marital status, language spoken at home, health status, and geographical region. However, the discussion presented below is restricted to the variables that were associated with the outcome; those that showed statistically significant differences with respect to the overall estimate.

For ease of presentation, although the K-HRS findings are limited to non-elderly adults, we do not specify this on each reference and instead refer to "Kentuckians."

> "The SHADAC 2016 K-HRS found that only 8.9% of non-elderly adult Kentuckians were uninsured, a historic low for uninsurance in the Commonwealth."

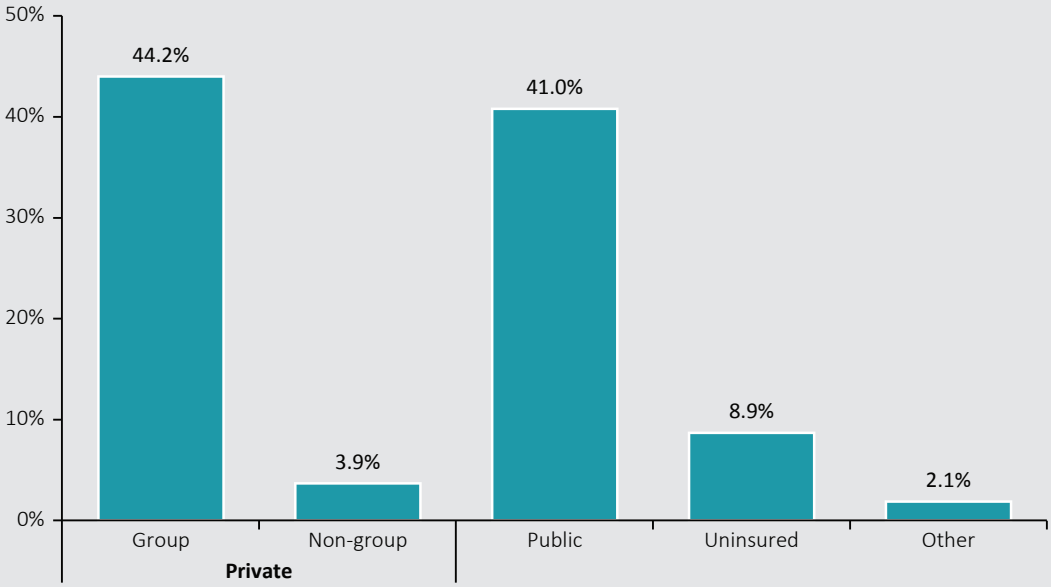
KENTUCKY HEALTH REFORM SURVEY PRELIMINARY FINDINGS

Uninsurance Rate Falls to Historic Low of 8.9%

Since implementation of the ACA's main coverage expansions in 2014, Kentucky has experienced one of the largest gains in health insurance coverage in the nation. The KHIP found that between 2013 and 2014, the uninsurance rate among non-elderly adults in Kentucky fell from 25% to 12%,[24] and it remained statistically stable in 2015.[25] The SHADAC 2016 K-HRS found that only 8.9% of non-elderly adult Kentuckians were uninsured, a historic low for uninsurance in the Commonwealth.[26]

Figure 6.1 shows the distribution of Kentucky's non-elderly adult population by coverage type: group coverage (i.e., employer-based insurance), non-group coverage (i.e., coverage purchased through the individual market), public health insurance programs, and the uninsured.[27] The largest source of coverage in 2016 was group coverage, with 44% of Kentuckians reporting health insurance through their own or a family member's employer. The second most common source of coverage in Kentucky was public health insurance programs (e.g., Medicaid, Medicare for the disabled, military coverage), which was reported by 41% of Kentuckians. Only 4% of Kentuckians purchased non-group individual or family plans, either through kynect or the off-exchange market.

FIGURE 6.1:
Sources of Health Insurance Coverage, 2016

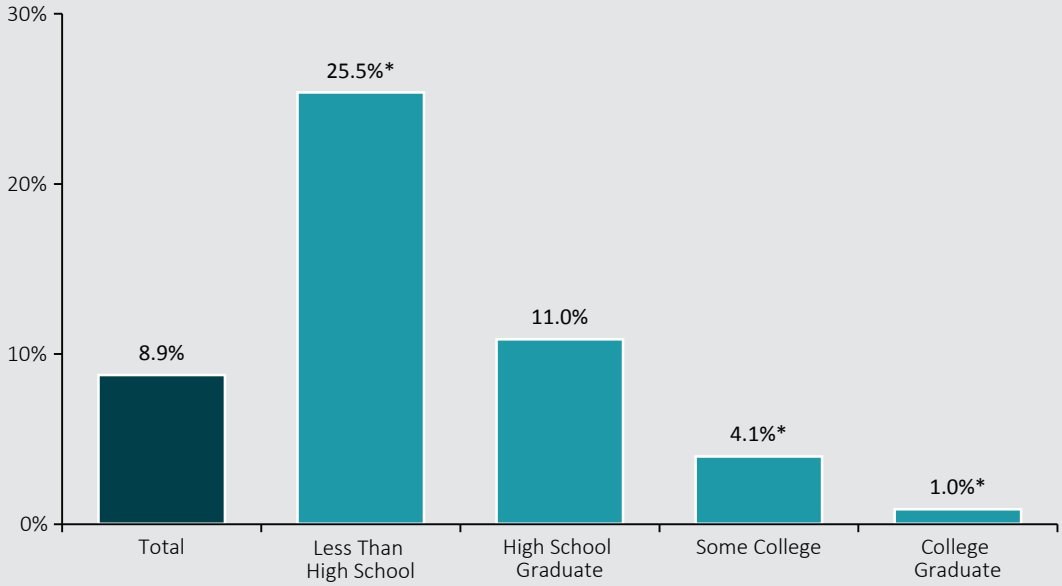


Source: 2016 Kentucky Health Reform Survey. Note: The category of "other" represents people who reported having health insurance but didn't specify the type of coverage.

The analyses presented in the rest of the report combine the group and non-group coverage categories into a larger "private coverage" category. Two exceptions are made for coverage through kynect and ED visits, where non-group coverage will be reported independently due to the relevance of the analysis and policy issues.[28] We exclude the "other" coverage type due to its small sample size and limited policy relevance.

Individual characteristics associated with a reduced likelihood of being uninsured include being female, being married, having attended or graduated from college, speaking only English at home, and having a family income of 201% of the Federal Poverty Guideline (FPG) or more. As presented in Figure 6.2, the only characteristic associated with a higher uninsurance rate was having less than a high school degree (25.5%).

FIGURE 6.2:
Uninsurance Rate by Education, 2016



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey.

FIGURE 6.3:
Main Reason Cited for Being Uninsured, 2016

Reason	Percent
Too expensive/ could not afford	56.2%
Do not need health insurance	10.0%
Unemployed/ not working	8.7%
Will get insurance soon	6.9%
Don't want government involved in their health care	5.3%
Not eligible/ health condition	5.3%
Spiritual/ natural healing	2.4%
Do not know how	2.3%
Never looked into it	2.0%
Other	1.0%

Source: 2016 Kentucky Health Reform Survey.

Cost is Main Reason for Being Uninsured

Figure 6.3 shows the reasons that the uninsured gave for being uninsured. Over half (56%) of those who were uninsured reported unaffordability of health insurance as the main reason to remain uninsured. Almost one in five uninsured Kentuckians reported reasons that suggest they were not interested in obtaining coverage: 10% reported not needing health insurance, 5% did not want the government involved in their healthcare, and 2% preferred spiritual and natural healing. A quarter of the uninsured reported reasons indicating they are not opposed to obtaining coverage: 9% reported being unemployed or not working as the reason for being uninsured, 7% had already initiated an application (i.e., will get insurance soon), 5% believed their health condition made them ineligible or they were not eligible to get public programs or employer-based insurance, and 4% did not know how to apply for health insurance coverage or had not looked into it.

Almost Half of Non-Elderly Adults Get Health Insurance through the Private Sector

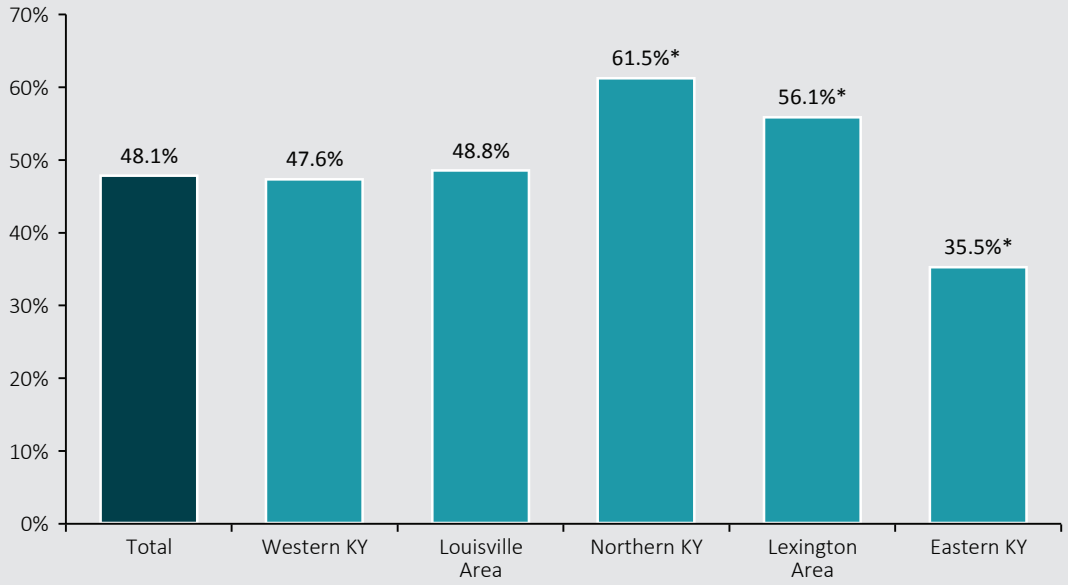
Almost half (48.1%) of non-elderly adults in Kentucky were covered by either health insurance through their (or a relative's) employer or health insurance they purchased in the individual market. Kentuckians who were white, married, employed, or who had incomes of 201+% of the FPG, had attended some college or had a college degree, or reported having very good or excellent health were more likely to have private coverage than the average Kentuckian. Figure 6.4 shows that residents of Northern Kentucky and the Lexington Area were significantly more likely to have private health insurance coverage, while residents of Eastern Kentucky were significantly less likely to have private coverage.

Public Health Insurance Coverage Plays a Large Role in Kentucky

Public health insurance programs cover 41.0% of non-elderly adults in Kentucky. As presented on the following page in Figure 6.5, non-whites were more likely to be enrolled in public programs, as well as individuals with incomes below 138% of the FPG—those newly eligible for Medicaid since implementation of the ACA Medicaid expansion in 2014—whereas those with higher incomes (201+% FPG) were significantly less likely (17.9%).[29] To see the dollar values associated with these FPG percentages, please see Figure 3.1 in Section II.

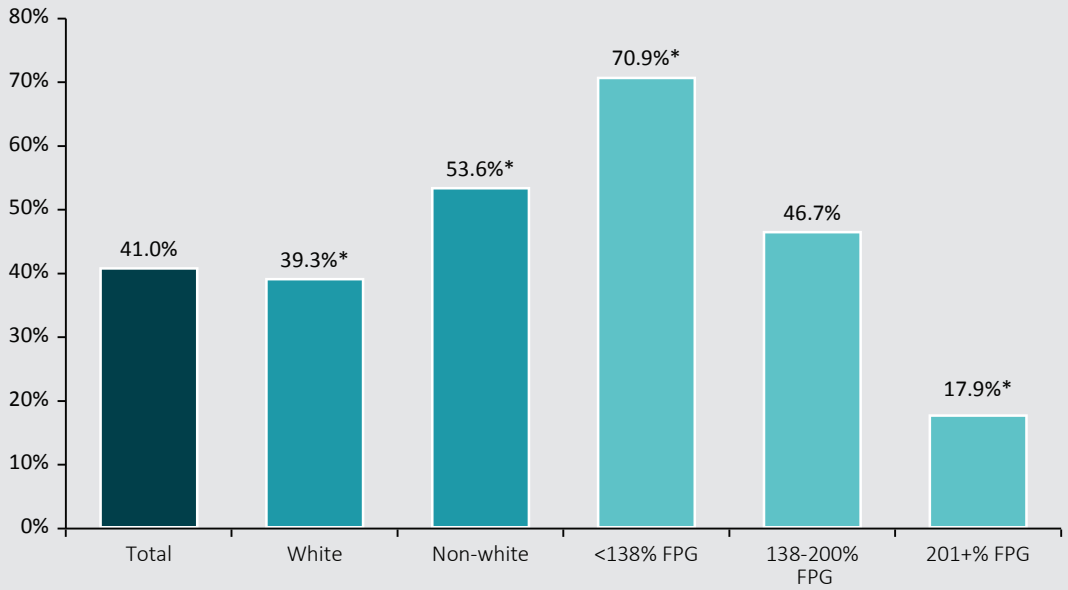
Those more likely to be covered by public programs include: individuals who had not graduated from high school or who only had a high school diploma, who were unemployed or full-time students, were divorced or widowed, who reported having fair or poor health, or who lived in Eastern Kentucky.

FIGURE 6.4:
Private Coverage by Geographic Region, 2016



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

FIGURE 6.5:
Public Coverage by Race and Income, 2016



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

1 in 4 Insured Kentuckians Found Their Current Health Insurance Through kynect

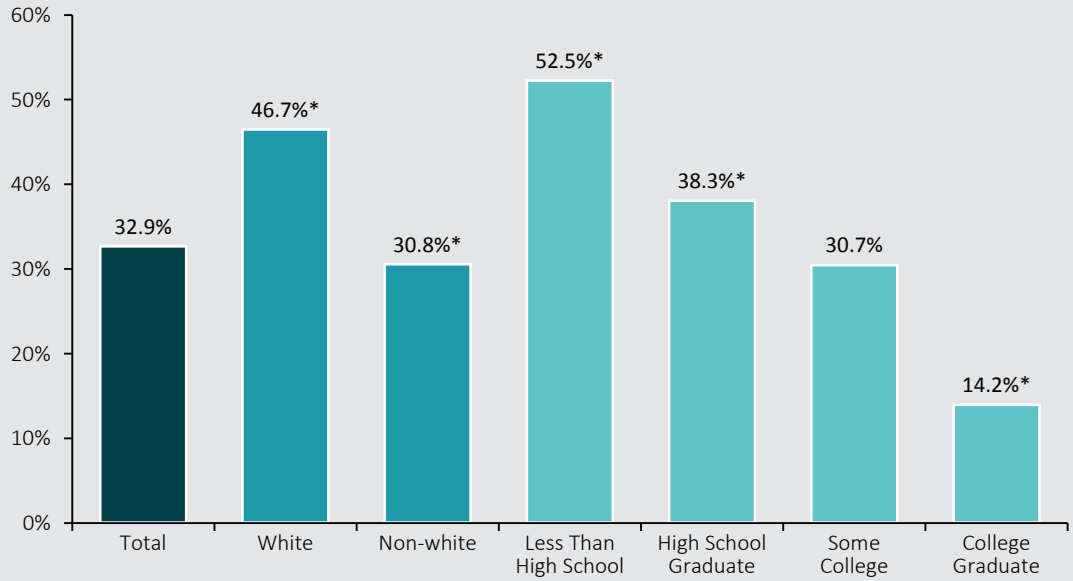
One of the key provisions of the ACA was the creation of health insurance marketplaces. These marketplaces provide a place for people to shop for private individual market health (and dental) insurance and obtain income-based financial assistance. Additionally, marketplaces can also serve as a place where people apply for public coverage, such as Medicaid.

Under the ACA, states were given the option of creating their own state-based marketplaces (SBMs), developing a partnership with the federal government, or allowing the federal government to run a marketplace for them. In 2014 Kentucky implemented an SBM, called kynect. Since his election in November 2015, newly elected Governor Matt Bevin announced plans to transition from the Commonwealth's state-based marketplace, kynect, to

a model using the federal Healthcare.gov health insurance marketplace platform.[30]

In 2016, one third of the non-elderly, adult population in Kentucky had shopped for coverage through kynect since it was created. Among individuals enrolled in public programs, 60.4% looked for coverage through kynect, whereas only 7.3% of those with employer-based insurance did so. Although no statistically significant difference was found with respect to the total estimate, 38.7% of uninsured Kentuckians and 39.7% of those with non-group coverage used kynect to shop for health insurance coverage. Figure 6.6 shows that while individuals with no college education had a higher rate of using kynect, college graduates were less likely to use kynect. Non-whites also showed a higher rate of using kynect's resources.

> "Among those who looked for coverage through kynect, 71% considered the overall experience to be excellent or good."



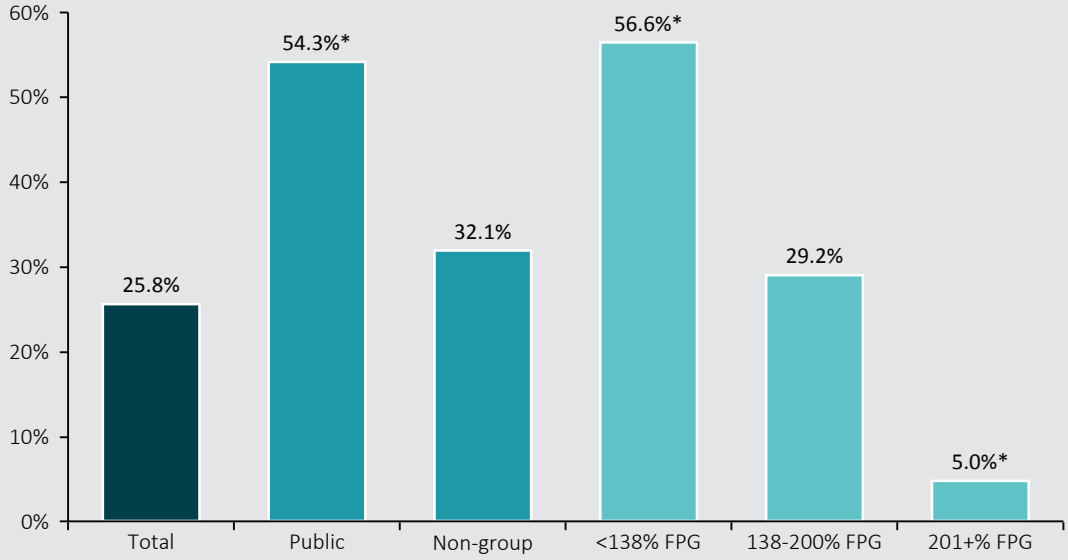
*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

FIGURE 6.6:
Use of kynect by Education and Race, 2016

Among those who looked for coverage through kynect, 71% considered the overall experience to be excellent or good. However, not everyone who shopped through kynect obtained coverage through the marketplace. In 2016, among those insured, 25.8% reported they obtained their health insurance coverage through kynect. As presented in Figure 6.7, the marketplace was an important gateway to public health insurance programs; over half of those with public coverage found their coverage through kynect (54.3%). Consistent with this result, Figure 6.7 also shows that those eligible for public programs due to their income (<138% FPG) were more likely to obtain health insurance coverage through this portal (56.6%).

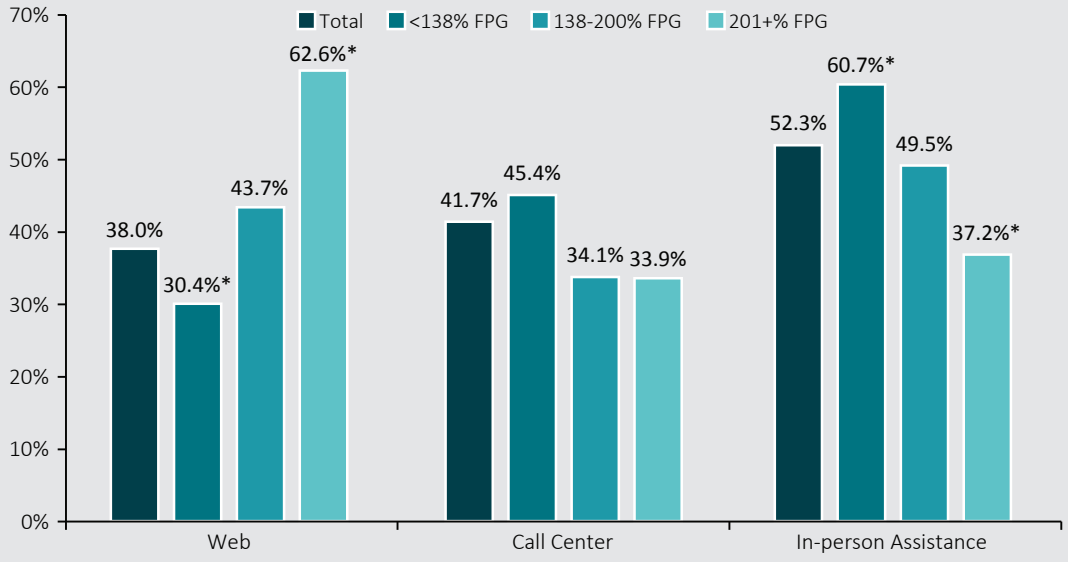
Finally, among those who shopped for health insurance coverage through kynect, in-person assistance was the most used resource (52%) while the call center and the website were used only by 42% and 38%, respectively.[31] As presented in Figure 6.8, the choice of assistance resource was associated with income. Low income individuals (<138% FPG) had a higher rate of use of in-person assistance, whereas they were less likely to use the website than the average Kentuckian. In contrast, higher-income individuals (201+% FPG) used the website more often and in-person assistance less regularly.

FIGURE 6.7:
Coverage Through kynect by Insurance Type and Income, 2016



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

FIGURE 6.8:
Use of kynect Resources by Income, 2016



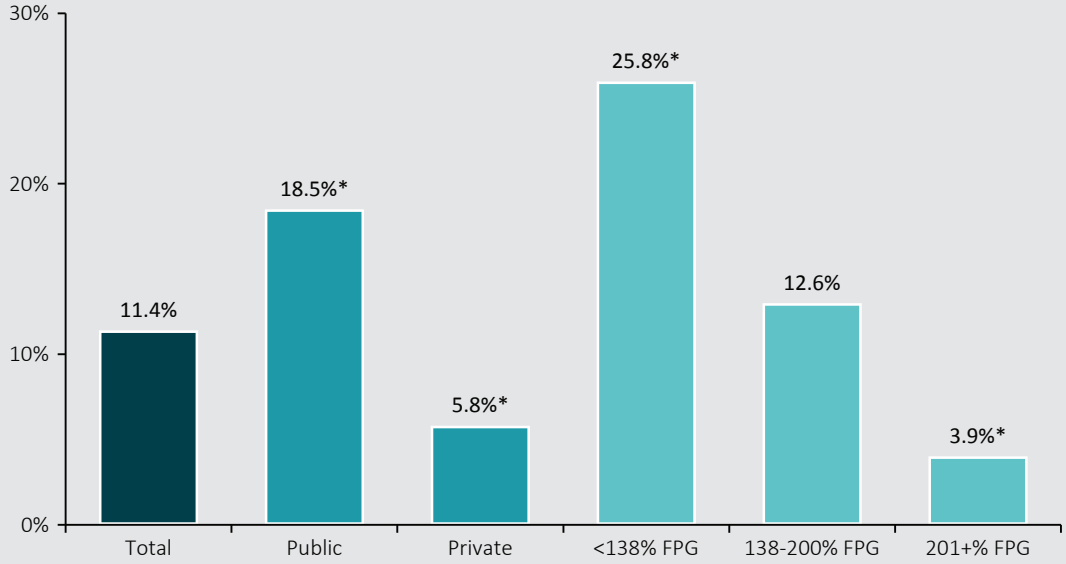
*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

1 in 10 Insured Kentuckians is Concerned about Losing Current Coverage

Governor Bevin's administration has developed plans to transition kynect to a federally supported SBM using the Healthcare.gov marketplace platform.[32] He also announced intentions to shift away from Kentucky's traditional ACA-based Medicaid expansion to an alternative expansion based on a Section 1115 demonstration waiver.

> "Twice as many people with incomes below 138% FPG were concerned about losing coverage compared to those with incomes between 138% and 200% FPG."

K-HRS PRELIMINARY FINDINGS



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

FIGURE 6.9:
Concerned About Losing Current Coverage by Insurance Type and Income, 2016

Due to the uncertainty about the future of Kentucky's implementation of the ACA, our survey asked whether respondents were concerned about losing their health insurance coverage in the next 12 months.

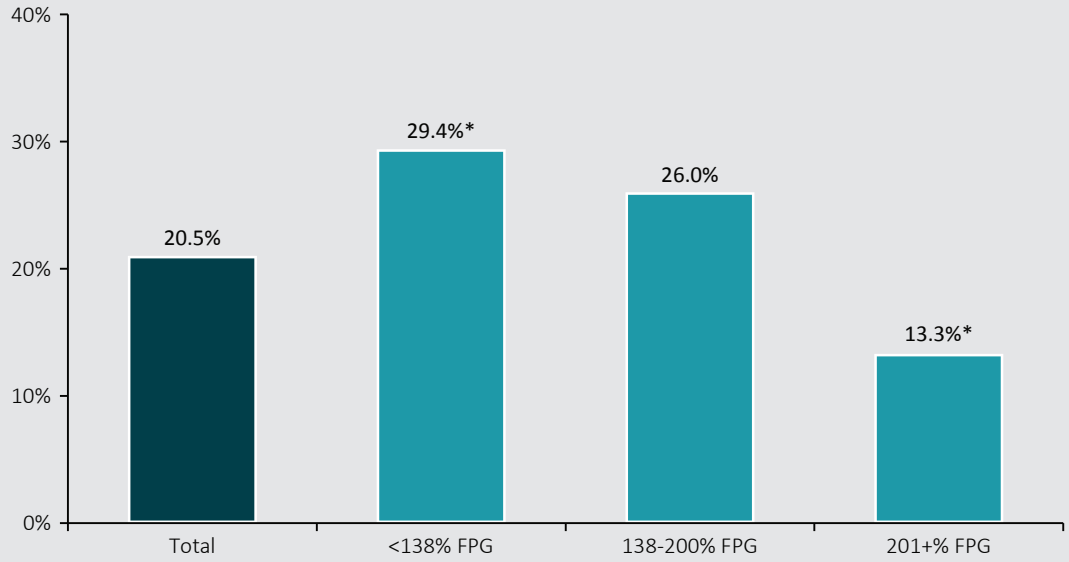
Overall, at the time of the survey in spring 2016, 11.4% of insured Kentuckians reported being concerned about losing their coverage. This varied based on characteristics of the population, mainly by type of coverage and household income. Figure 6.9 shows that 18.5% of Kentuckians enrolled in public health insurance programs indicated this concern, which was significantly more than the overall insured population. By comparison, only 5.8% of privately insured Kentuckians were concerned about losing their coverage. More than one in four Kentuckians with a household income below 138% of FPG also worried about losing their coverage, which was significantly higher than the overall population. Twice as many lower-income people (<138% FPG) were concerned about losing coverage compared to those with incomes between 138 and 200% of FPG, and 6.5 times higher than those with higher incomes (201+% FPG). Individuals who had never been married, reported having fair or poor health status, or lived in Eastern Kentucky also showed a significantly higher concern. In contrast, individuals with private coverage, household income of 201% of the FPG or higher, a college degree, and good health status were less concerned than the average Kentuckian. Employed and married individuals also expressed less concern.

Nearly Half of Uninsured Kentuckians Delayed or Went Without Medical Care Due to Cost

Compared to other states, Kentucky had one of the largest gains in health insurance since implementation of the ACA's main coverage expansions. As the rate of uninsurance falls, health care access and affordability become important indicators of whether coverage is allowing people to use health care services and protecting them from financial risk. This section provides a current picture of healthcare affordability in Kentucky.

Although almost 21% of Kentuckians delayed or went without medical care due to cost in the 12 months prior to the time of the survey, the uninsured were more than twice as likely to delay or forgo care (48%).[33] Kentuckians who described their health as "fair" or "poor" also were more likely to say they delayed or went without care due to cost (28% and 43%, respectively), while those with "excellent" or "very good" health status were less likely to say they delayed or went without care (7% and 14%, respectively)(not shown in figure). Figure 6.10, shows lower-income Kentuckians (<138% of FPG) were significantly more likely to report delayed or forgone care due to cost compared to Kentuckians overall.

FIGURE 6.10:
Percent Who Delayed or Went Without Medical Care Due to Cost by Income, 2016



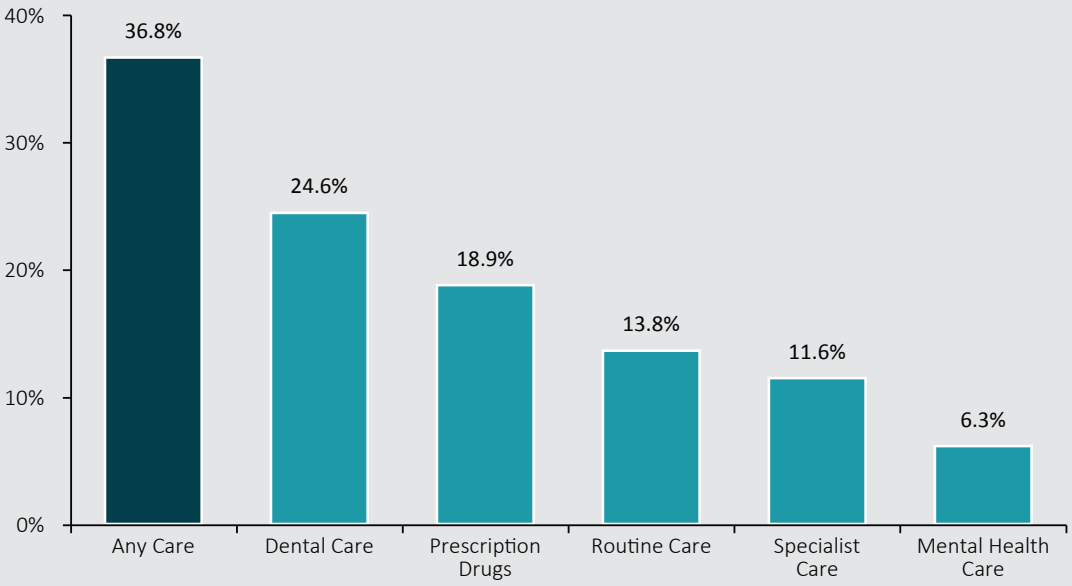
*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

Nearly 1 in 4 Went Without Dental Care

The K-HRS also asked respondents whether they had gone without specific types of care (i.e., prescription drugs, dental care, routine care, mental health care, and specialist care) due to cost.[34] Figure 6.11 shows that almost one in four Kentuckians went without dental care due to cost in the prior 12 months. Additionally, nearly one in five Kentuckians reported going without prescribed drugs due to cost, which could serve as a barrier to effective treatment of medical conditions. Almost 14% reported going without routine, or preventive care, which the ACA requires that private health insurance covers with no cost-sharing.

Figure 6.11 also shows that 37% of Kentuckians went without at least one of these five types of care due to cost.[35] This result suggests that despite the significant gains in coverage post-ACA, strong barriers to accessing some types of health care remain in Kentucky.

FIGURE 6.11:
Forgone Care Due to Cost by Type of Care, 2016



Source: 2016 Kentucky Health Reform Survey

K-HRS PRELIMINARY FINDINGS

FIGURE 6.12: Forgone Care Due to Cost by Health Status, 2016

*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

Similar to delayed and forgone medical care, three characteristics were highly correlated with forgoing these types of care: insurance status, income, and health status. Almost three out of five uninsured Kentuckians (59%) went without at least one of these types of care in the prior 12 months, compared to 40% for those enrolled in public coverage and to 31% for those with private coverage. Additionally, half of lower-income Kentuckians (<138% FPG) went without at least one type of care; one in three higher-income (201+% FPG) individuals reported this experience.

Figure 6.12 presents the association between health status and forgone care due to cost. The percentage of Kentuckians who reported going without any type of care among those with poor health was triple that of Kentuckians with excellent health (64% and 21%, respectively). While the previous results suggested that having lower income or being uninsured would increase one's chances of forgoing care, the results shown in Figure 6.12 may suggest that forgoing care could affect individuals' health.

2 in 3 Kentuckians Have Dental Coverage

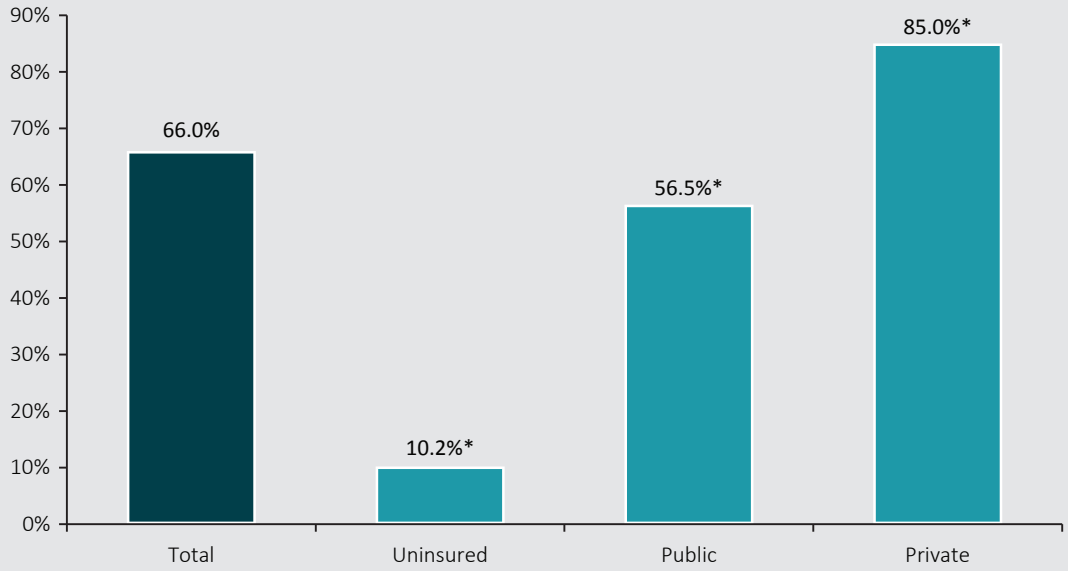
Access to dental care is a concern because research has found that poor oral health is associated with other medical conditions, such as cardiovascular disease, diabetes, and microbial infections.[36] Additionally, in the U.S. hospital emergency de-partment (ED) visits for dental conditions have continued to rise and the share of ED visits paid for by Medicaid has increased.[37]

Two thirds of non-elderly, adult Kentuckians reported having some form of dental insurance coverage. In addition, Figure 6.13 shows that dental care coverage is highly associated with health insurance coverage: Those without health insurance were significantly less likely to have dental insurance (10.2%). The type of health coverage an individual has was also associated with dental insurance; 85.0% of Kentuckians with private health insurance report having dental coverage, while only 56.5% of those with public health insurance reported having dental coverage.

Dental coverage was also associated with household income, education, marital status, employment, and health status. Kentuckians were less likely to have dental coverage if they were older, had lower incomes, had less education, were not employed, or reported worse health status.

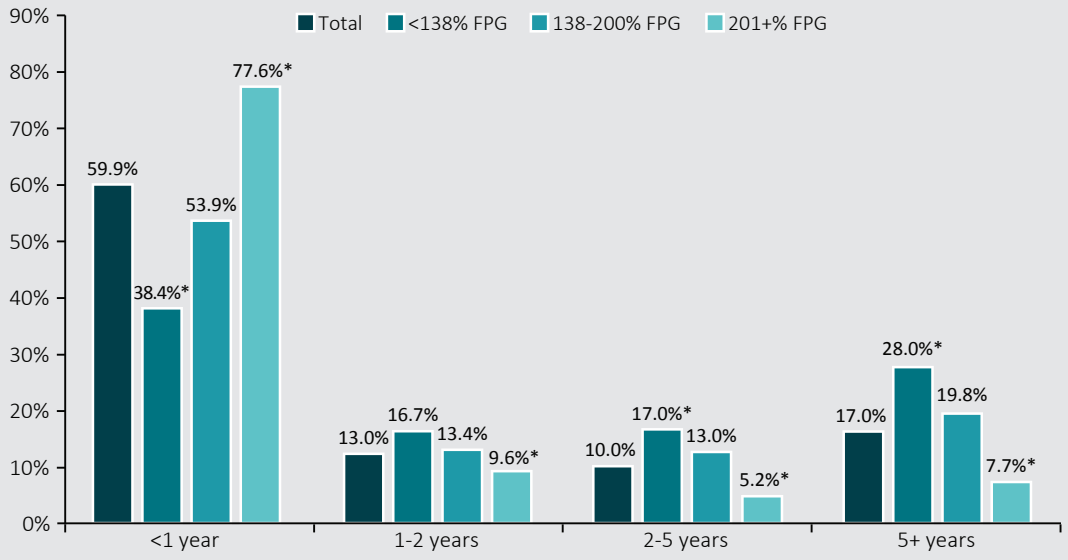
A substantial portion of Kentuckians do not receive dental care as frequently as recommended by the American Dental Association,[38] as only 60% had a visit within the prior 12 months and 17% had not visited the dentist in over 5 years (Figure 6.14). Frequency of dental visits is associated with health insurance status and type, sex, education, household income, employment, marital status, and health status. While 78% of higher-income Kentuckians (201% of FPG or more) visited the dentist within the past 12 months, only 38% of lower-income individuals (138% of FPG or less) did. The uninsured were least likely to have visited a dentist within the past 12 months (31%) and the most likely not to have received dental care in more than 5 years (41%). Slightly over half of those enrolled in public programs had their last dental care visit in the last 12 months, but 20% had not received dental care in the last 5 years.

FIGURE 6.13:
Dental Coverage by Insurance Status and Type, 2016



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

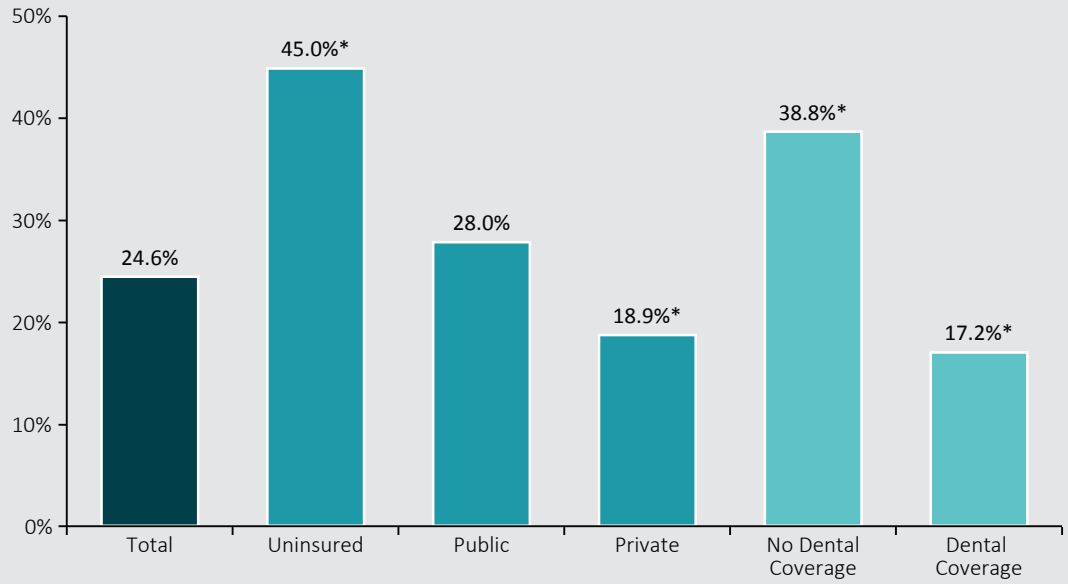
FIGURE 6.14:
Last Dental Care Visit by Income, 2016



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

As noted previously in Figure 6.11, one out of four non-elderly adults in Kentucky went without dental care in the 12 months prior to the survey due to cost. Figure 6.15 shows that Kentuckians with no dental coverage were more likely to go without dental care services (39%). These results suggest that being without health insurance is a stronger barrier to accessing dental care services than not having dental coverage, as 45% of uninsured Kentuckians went without dental care (compared to 39% of those without dental insurance). Individuals with dental coverage and private health insurance coverage were less likely to forgo dental care than Kentuckians on average, at 17% and 19%, respectively.

Forgoing dental care is also associated with health status, marital status, employment status, and household income. Unemployed, disabled, and retired non-elderly adults were twice as likely to report forgone dental care in comparison to employed individuals. Higher-income (201% of FPG or more), married, and employed Kentuckians were less likely to report forgoing dental care due to cost; whereas lower-income (<138% FPG), divorced/separated, unemployed/disabled/retired individuals were more likely to report this barrier than the average Kentuckian. Lastly, individuals with fair or poor health also reported higher percentages of forgone dental care due to cost.



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

FIGURE 6.15:
Forgone Dental Care by Health Insurance Status and Dental Coverage, 2016

4 in 10 Kentuckians Visited the Emergency Department in the Last 12 Months

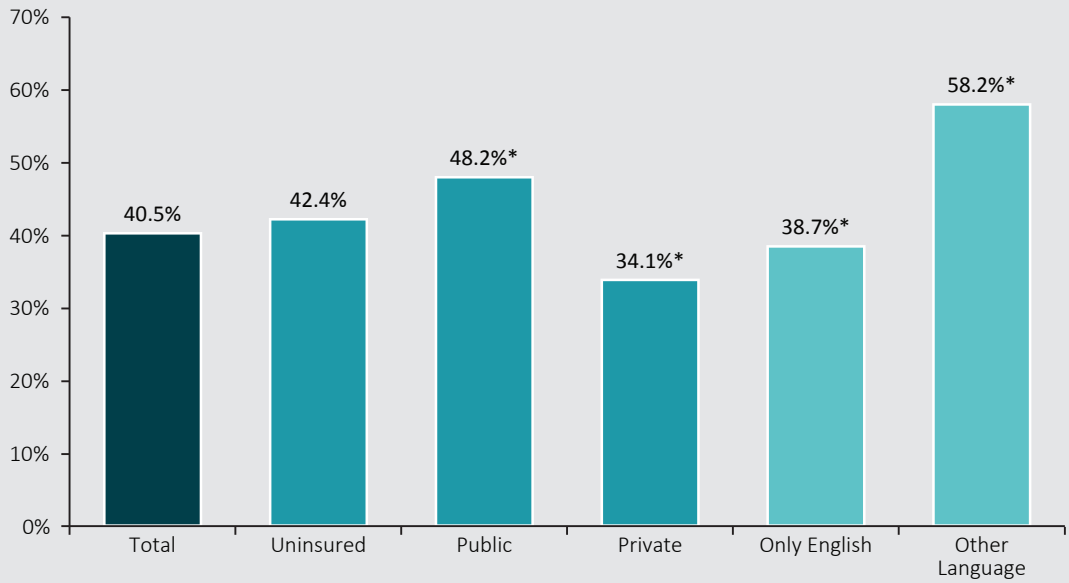
Visits to the Emergency Department (ED) are costly due to the amount of resources required to provide care to each one of these visits.[39] However inevitable in some cases, they are preventable and unnecessary in others.[40] Figure 6.16 shows that 40.5% of Kentuckians visited the ED in the prior 12 months for themselves or a family member.[41] Among the uninsured, 42% sought this care, which was not a statistically significant difference from the overall rate. However, almost half of those enrolled in public health insurance programs visited the ED (48%), while only 19% of those who purchased their own health insurance coverage (not shown in figure), either in the marketplace or not, also sought this emergency care.

> "The most common reason reported for using the Emergency Department was that they experienced a medical emergency."

Figure 6.16 also shows that while 39% of Kentuckians who only speak English at home received care in the ED, 58% of those who speak a different language at home also visited the ED, which could be due to language barriers or differences in health literacy. Other characteristics negatively associated with visiting the ED to seek care were health status and household income.

Among K-HRS respondents who reported using the ED, certain responses suggested the emergency department visit was necessary (Figure 6.17). For example, the most common reason was that they experienced a medical emergency (29.1%), and 7.1% said their doctors directed them to the emergency department. However, some other answers suggested that respondents faced barriers to obtaining care in other settings, such as a regular health clinic, indicating the emergency department visit may have been avoidable or care could have been obtained in another setting. For example, 28.7% said they used the emergency department because other facilities were not open when they needed care.

FIGURE 6.16:
Emergency Department Visits by Health Insurance Type and Language Spoken at Home, 2016



*Difference is statistically significant at the 95% level between the specific estimate and the total estimate for the overall non-elderly population.
Source: 2016 Kentucky Health Reform Survey

FIGURE 6.17:
Main Reason Cited for Visit to the Emergency Department, 2016

Reason	Percent
There was a medical emergency	29.1%
Other facilities weren't open when needed care	28.7%
Named a specific health condition only	18.2%
Your doctor directed you to go there	7.1%
Do not have a regular doctor	3.0%
Proximity to Emergency Department	2.9%
Transferred/ taken by ambulance	2.6%
Other	8.4%

Source: 2016 Kentucky Health Reform Survey.

IV. DISCUSSION & NEXT STEPS

Discussion

This study will document gains in health insurance coverage, monitor whether those gains are maintained over time, and examine the impact of the ACA. Recent evidence shows that measures intended to assess the impact of implementation of Medicaid expansion under the ACA may underestimate the results in the short-term, indicating the need for studies that evaluate the impact over time.[42]

Implementation of the ACA in Kentucky has significantly increased health coverage in the Commonwealth.[43] The preliminary results of our Kentucky Health Reform Survey, which found that only 8.9% of non-elderly adult Kentuckians were uninsured and are consistent with other surveys that have found significant drops in Kentucky's uninsurance rate.

In this update of our study, we found that access to health care services remained largely stable between our baseline year of 2012 and 2014, the first year of ACA implementation. Cost indicators have been mixed: While hospital charity care and self-pay charges have dropped by more than 75% since 2012, and a smaller share of Kentuckians report trouble paying medical bills, the percentages of Kentuckians delaying or forgoing care due to cost has not changed, and premiums for some employer-sponsored insurance plans have continued their pre-ACA trend of increasing over time. Quality indicators also have shown mixed results, with decreases in certain preventable hospitalizations and increases in others. Finally, while one health outcomes indicator—adult cigarette use—has shown improvement, two other indicators have remained unchanged: adolescent obesity and cigarette use.

We also presented initial findings from our quantitative primary data collection activities—initial results for the Kentucky Health Reform Survey—in this report. Although nearly half of Kentuckians reported having private health insurance coverage, public health insurance coverage also plays a large role in Kentucky, covering nearly as many Kentuckians as private coverage. We also found that kynect was an important avenue for people to obtain health insurance, with the majority reporting positive experiences with the marketplace. Despite the recent strides in health insurance coverage since the implementation of the ACA, more than 10% of Kentuckians reported being concerned about losing their coverage, and 1 in 5 Kentuckians reported delaying or going without medical care due to cost. We will soon begin interviews with Kentucky stakeholders and focus groups with Medicaid beneficiaries to further explore findings through the qualitative component of the study.

Next Steps

This semi-annual report provides an updated data comparison to the baseline assessment of the health care environment in Kentucky across the domains of coverage, access, cost, quality, and health outcomes. In combination with prior reports, these indicators demonstrated improvements in certain areas, although many of the indicators have so far seen limited or no significant changes. We will continue to track the study indicators and use the other components of our study to inform these findings. This report also presents preliminary findings from the Kentucky Health Reform Survey (K-HRS). Future reports will present additional analyses of the K-HRS data that will allow comparisons to the KHIP as well as more in depth analysis in several policy-relevant areas than possible in the KHIP.

As the study proceeds, SHADAC will use future annual and semi-annual reports to document further developments in the health care environment in Kentucky. SHADAC will collaborate with the Foundation and the ACA Impact Study Oversight Committee on key next steps for the study, which include:

- Conducting focus groups and key informant interviews in summer and fall 2016.
- Continued production of Quarterly Snapshots to show change in indicators that have more frequent data availability.
- Production of a second special report on substance use in 2016.
- The Year 2 annual report, with data updates (as available) to the standard metrics presented in previous annual and semi-annual reports, as well as additional findings from the Kentucky Health Reform Survey, to be submitted in February 2017.

V. APPENDIX: DATA SOURCES, METHODS, & INDICATORS

In this Appendix, we describe our data collection procedures and methods for the study. The Appendix is organized by data source, and it includes a brief data source description, a discussion on how the estimates were obtained, and some notes about specific indicators where relevant.

Medical Expenditure Panel Survey – Insurance Component (2012, 2013, 2014, 2015)

The Medical Expenditure Panel Survey – Insurance Component (MEPS-IC) is a federal survey sponsored by the U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality. The MEPS-IC collects information from public and private employers about the health insurance plans they offer to employees, including benefits, costs, and other characteristics. The sample size in 2015 was over 39,000 businesses at the national level. Summary reports with detailed state-level tables for private sector employers are released in July of each year following the survey year. Unlike with the ACS and CPS, a public use data file is not available from the MEPS-IC.

For this report, SHADAC used data from the MEPS-IC to estimate private-sector employer offer rates and premiums. We accessed these estimates from the MEPS-IC web site.

National Health Interview Survey (2012, 2013, 2014)

The National Health Interview Survey (NHIS) is a federal survey sponsored by the Centers for Disease Control & Prevention (CDC) and the National Center for Health Statistics (NCHS). The NHIS asks about health insurance coverage, health care utilization and access, health conditions and behaviors, and general health status, as well as many demographic and socioeconomic characteristics. It has a total sample of more than 112,000 in 2014 (the NHIS does not release state-level sample sizes).

Summary reports, with state estimates for the 43 largest states of types of coverage (including Kentucky) are released six months after data collection. Data files with state-level and other geographic identifiers can be accessed only through a Census Research Data Center (RDC). Access to data in Research Data Centers is only allowed after a proposal has been submitted and approved by NCHS and only to researchers who have Special Sworn Status. SHADAC has an approved project for accessing this restricted data in the RDC for the purpose of posting estimates on our Data Center. Changing variable definitions or adding variables means amending our annual proposal to the RDC. SHADAC used data from the NHIS to estimate nine different measures in the cost and access domains. Measures within the cost domain include trouble paying medical bills, delayed needed care due to cost, and went without needed care due to cost. For the access domain, the measures include: usual source of care, provider visit in the last year, emergency department visit in the last year, found doctor when needed, told provider accepts insurance, and changes to medical drug use due to cost.

The changes to drugs due to cost measure includes asking the doctor for cheaper medications, delaying refills, taking less medication than prescribed, skipping dosages, using alternative therapies, or buying medications out of the country within the past year. The trouble paying off medical bills measure includes people who are paying off medical bills within the past year.

Behavioral Risk Factor Surveillance System (2011, 2012, 2013, 2014)

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based survey sponsored by the CDC and the Kentucky Cabinet for Health and Family Services. The BRFSS survey asks about health conditions, risk behaviors, preventive health practices, access to health care, and health insurance coverage. State-level results are available from the CDC for all states. Kentucky BRFSS data are analyzed at the Area Development District (ADD) level for the state's 15 ADDs. The sample size for each ADD is 500 completed surveys, to ensure an adequate sample size for analysis.

SHADAC has changed the way we obtained the BRFSS since the baseline report, opting to access and analyze the public use data for all estimates. To maintain consistency and comparability, we have updated our baseline estimates, as well. This report includes a new indicator with the estimate of cigarette use in adults, added to the health outcomes domain. This estimate reports the percentage of adults who have smoked 100 or more cigarettes in their lifetime and who currently smoke some days or every day.

Healthcare Cost and Utilization Project (2012, 2013, 2014)

The Healthcare Cost and Utilization Project (HCUP), is sponsored by the U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ) and provides data on health statistics and information on hospital inpatient and emergency department utilization.

We use HCUP data for estimates in the quality domain, including diabetes short-term admissions, hypertension admissions, asthma admissions, and death rate in low-mortality DRGs. These indicators were previously reported with data from a different source and due to potential differences in the methodology, these

data may not match similar data in prior reports. The diabetes admission estimate reports the diabetes short-term complications admission rate for adults. The hypertension estimate reports the hypertension admission rate for adults. The asthma estimate reports asthma in younger adults' admission rate for adults ages 18 to 39. The death rate estimate reports those dying in the hospital while getting care for a condition that rarely results in death rate cases. Because these administrative data are not based on a sample, there was no need for statistical testing of differences.

Youth Risk Behavior Surveillance System (2013, 2015)

The Youth Risk Behavior Surveillance System (YRBSS) survey asks students in grades 9-12 about tobacco use, sexual behaviors, alcohol and drug use, diet and exercise, obesity, asthma, and behaviors related to violence and injury. Kentucky also administers a middle-school version for grades 6-8. The YRBSS is given to a sample of students, and is a bi-annual survey conducted in odd-numbered years, with results released the year following the survey. In 2015, the Kentucky sample from the YRBSS included more than 2,500 students. The source for the indicators obtained for this source is online data from the CDC.

We include the following three measures from the survey: unprotected sex among high school students in the quality domain, as well as obesity rates and cigarette use in the health outcomes domain. The estimate on unprotected sex reports the percentage of sexually active high school students who did not use any method to prevent pregnancy during their last sexual intercourse. The obesity measure reports the percentage of students who were above the 95th percentile for Body Mass Index based on gender-and-age-specific reference data from the 2000 CDC growth charts. The cigarette measure reports the percentage of high school students who currently smoked cigarettes, on at least 1 day during the 30 days before the survey.

Kentucky Outpatient Hospital Administrative Claims Data (2012, 2013, 2014, 2015)

The Kentucky Outpatient Hospital Administrative Claims Data were provided by the Kentucky Cabinet for Health and Family Services. These data were updated to include 2012 data (previously unavailable) and the full year of 2013 data (previous data only included the first three quarters of the year), and include charges for self-pay and charity care. In these data we are not able to discern between paid and unpaid charges. Since hospitals are likely to receive some payment for at least of portion of self-pay charges, we acknowledge that not all self-pay charges become "uncompensated". For the purposes of estimating uncompensated care, we assume that the majority of the self-pay charges are not paid in full.

Kentucky Health Reform Survey (2016)

The Kentucky Health Reform Survey (K-HRS) was conducted by SHADAC and the University of Cincinnati Institute for Policy Research from March-May 2016. The methodology and a substantial part of the survey instrument were based on the existing Kentucky Health Issues Poll (KHIP), allowing for comparisons of the estimates from the K-HRS to prior KHIP estimates and potentially future KHIP estimates, yet the K-HRS included more depth in several policy-relevant areas than possible in the KHIP. Survey questions were selected in consultation with the Foundation and study Oversight Committee, with overarching goals of maintaining consistency with the KHIP to allow trend analyses and investigating key components of ACA implementation in Kentucky, such as the Commonwealth's kynect state-based marketplace. The dual-frame (landline and cell phone) survey sampled non-elderly adult Kentuckians for a total of 1639 interviews. The measures in this report include data on uninsurance and coverage types, concern about losing coverage, forgone or delayed care due to cost, dental coverage and care, and emergency department use.

Report Estimate Considerations

Suppression rules depended on the source of the data and the availability of measures of uncertainty and/or sample sizes. Estimates from the NHIS are suppressed if either the number of sample cases was too small or the relative standard error was greater than 30%. In cases where standard errors were not available, we did not suppress any estimates.

It should be noted that we lacked the necessary information to perform an "overlap adjustment" to our statistical tests. Since we are comparing Kentucky's estimates to national estimates (which include Kentuckians), the proportion of Kentuckians in the population considered in the estimate should be taken into account. However, this specific information was not available for most estimates. By not conducting an overlap adjustment we are slightly less likely to report that a difference is statistically significant.

VI. ENDNOTES

[1] Though Arkansas is not technically a border state, we include it because it is often compared to Kentucky due to similarities in health status, demographics, and state policies.

[2] Institute of Medicine. (2009). *America's uninsured crisis: Consequences for health and health care.* (Report Brief). Available at: http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2009/Americas-Uninsured-Crisis-Consequences-for-Health-and-Health-Care/Americas%20Uninsured%20Crisis%202009%20Report%20Brief.pdf

[3] Planalp, C., Sonier, J., & Fried, B. (2015). *State-Level Trends in Employer-Sponsored Health Insurance: A State-by-State Analysis*. State HeathAccess Data Assistance Center. Available at: http://www.shadac.org/publications/state-level-trends-employer-sponsored-health-insurance-2016-report

[4] Institute of Medicine, Committee on Monitoring Access to Personal Health Care Services. (1993). *Access to Health Care in America*. Washington, DC. National Academy Press.

[5] Call, K., McAlpine, D., Garcia, C., Shippee, N., Beebe, T., Adeniyi, T., & Shippee, T. (2014). Barriers to Care in an Ethnically Diverse Publicly Insured Population: Is Health Care Reform Enough? *Medical Care*, 52(8)

[6] SHADAC is investigating the feasibility of including another access indicator, *wait time to see a primary care provider*, in future reports. For more information on this, see the section on the National Health Interview Survey in the Appendix.

[7] U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation. (Undated). *Health System Measurement Project: Percentage of People Who Have a Specific Source of Ongoing Medical Care*. Available at: https://webcache.googleusercontent.com/search?q=cache:1aPHByoep8QJ:https://healthmeasures.aspe.hhs.gov/percentage-people-who-have-specific-source-ongoing-medical-care+&cd=2&hl=en&ct=clnk&gl=us

[8] DeVoe, J., Tillotson, C., Wallace, L., Lesko, S., & Pandhi, N. (2012). Is health insurance enough? A usual source of care may be more important to ensure a child receives preventive health counseling. *Maternal and Child Health Journal*, 16(2), 306-315

[9] For some of the NHIS indicators, the difference between 2012 and 2014 U.S. estimates is statistically significant even though a similar or larger difference was not statistically significant for Kentucky; this may be because the U.S. sample size is larger than for individual states, making it more likely to find that a difference is statistically significant.

[10] Agency for Health care Research and Quality. (2014). *HCUP Statistical Brief: Overview of Emergency Department Visits in the United States, 2011*. Available at: https://www.hcup-us.ahrq.gov/reports/statbriefs/sb174-Emergency-Department-Visits-Overview.pdf

[11] Office of the Assistant Secretary for Planning and Evaluation (2014). Poverty Guidelines. Available at: https://aspe.hhs.gov/2014-poverty-guidelines

[12] U.S. Census Bureau (2014). Percent of people below poverty level in the past 12 months. American Fact Finder. 2014 American Community Survey 1-year Estimates. Available at: http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

[13] Charity care and self-pay charges are used as a proxy for uncompensated care.

[14] Cunningham, P., Garfield, R., & Rudowitz, R. (2015). *How Are Hospitals Faring Under the Affordable Care Act? Early Experiences from Ascension Health.* The Henry J. Kaiser Family Foundation. Available at: http://kff.org/health-reform/issue-brief/how-are-hospitals-faring-under-the-affordable-care-act-early-experiences-from-ascension-health/

[15] Torio, C., Elixhauser, A., & Andrews, R. (2013). Trends in Potentially Preventable Hospital Admissions among Adults and Children, 2005–2010. Agency for Healthcare Research and Quality. Healthcare Cost and Utilization Project. Statistical Brief #151. Available at: https://www.hcup-us.ahrq.gov/reports/statbriefs/sb151.pdf

[16] Commonwealth of Kentucky, Cabinet for Health and Family Services. (2012). Prevention Quality Indicators. Available at: http://chfs.ky.gov/ohp/healthdata/pqis.htm

[17] Centers for Medicare and Medicaid Services. (2014). Acute Inpatient PPS. Available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/index.html?redirect=/acuteinpatientpps/

[18] Agency for Healthcare Research and Quality. (2009). Patient Safety Indicators Technical Specifications PSI #2 Death in Low-mortality DRGs. Available at: http://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V41/TechSpecs/PSI%2002%20Death%20in%20Low-mortality%20DRGs.pdf

[19] Klein, J., Barratt, M., Blythe, M., Braverman, P., Diaz, A., Rosen, D., & Wibbelsman, C. (2007). "Contraception and Adolescents." Pediatrics 120, 5. Available at: http://pediatrics.aappublications.org/content/120/5/1135

[20] U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. (2015). *Healthy People 2020: Foundational Health Measures: Determinants of Health*. Available at: http://www.healthypeople.gov/2020/about/foundation-health-measures/Determinants-of-Health

[21] Boban, M., Francis, L., Kayalar, A., & Cone, J. (2008). Obesity: Effects of Cardiovascular Disease and its Diagnosis. *Journal of the American Board of Family Medicine*, 21(6). Available at http://www.jabfm.org/content/21/6/562.full

[22] National Institutes of Health, National Heart, Lung, and Blood Institute. (2013). *Why Obesity is a Health Problem*. Available at: https://www.nhlbi.nih.gov/health/educational/wecan/healthy-weight-basics/obesity.htm

END NOTES

[23] The Centers for Disease Control and Prevention. (Undated) *Coverage for Tobacco Use Cessation Treatments*. Available at: https://www.cdc.gov/tobacco/quit_smoking/cessation/pdfs/coverage.pdf

[24] Foundation for a Healthy Kentucky. (2015). *Employer-provided insurance rises; uninsured rate drops*. Available at: http://www.healthy-ky.org/sites/default/files/KHIPInsuranceCoverageFINAL.pdf

[25] Foundation for a Healthy Kentucky. (2016). *State's uninsured rate at 13%; unstable insurance declines*. Available at: http://www.healthy-ky.org/sites/default/files/KHIP%20health%20insurance%20FINAL.pdf

[26] Other surveys, such as Gallup, have found different estimates. However, this figure is the lowest ever estimated using the same or equivalent methodology.

[27] Group coverage includes health insurance through an employer. Non-group coverage includes self-purchased health insurance for an individual or family and health insurance purchased through the marketplace for which a premium is paid. Public coverage includes Medicaid (including Kentucky Health Choices, Anthem, Passport, CoventryCares, Humana/CareSource, and WellCare), Medicare, Military care (including TRICARE and CHAMP-VA), and health insurance obtained through the marketplace for which a premium is not paid. Other coverage is health insurance for which type could not be determined due to limited information provided by the respondent.

[28] Only 70 individuals reported having non-group coverage in the KHRS. Although a small sample size, it is still valid to obtain estimates for some indicators for this group. However, the reader needs to consider this indicator with caution, as the standard errors of tend to be high and confidence intervals wide.

[29] An annual income of $16,394 for a single person or $33,534 for a family of four is equivalent to 138% of the Federal Poverty Guidelines in 2016. (Source: Office of the Assistant Secretary for Planning and Evaluation. Available at: https://aspe.hhs.gov/poverty-guidelines). Similarly, 200% of the FPG is equivalent to incomes of $23,760 for a single person and $48,600 for a family of four.

[30] Letter from Governor Matthew Bevin to U.S. Department of Health & Human Services Secretary Sylvia Mathews Burwell. (December 30, 2015). Available at: http://www.xcenda.com/Documents/HPW1-15-16_Bevin-Burwell.pdf

[31] Note that individuals may have used more than one resource, which implies that the sum of these estimates surpasses 100%.

[32] Letter from U.S. Department of Health and Human Services Secretary Sylvia Burwell to Governor Matt Bevin (July 20, 2016). Available at: http://static1.squarespace.com/static/56992609c647ad16c04a9386/t/5792792d1b631b28a684b6aa/1469217069843/Secretary+Burwell+response+to+KY+Governor+Bevin+Letter+re+KY+Kynect+Tran...+%281%29.pdf

[33] This estimate is higher than estimates from the 2014 NHIS, which found that 14.5% of non-elderly Kentuckians delayed and 11.9% went without medical care, but the K-HRS estimates combine these two barriers.

[34] The reader should note that these indicators are slightly different from that of delayed or forgone medical care, as they only refer to forgone prescription drugs, dental care, routine care, mental care, and specialist care.

[35] As these categories are not mutually exclusive, forgoing any care is defined as forgoing at least one of the five types of care: dental, routine, mental, or specialist care, or prescription drugs. However, it does not include forgoing medical care; the difference between the question for medical care and those for these other types of care make them not comparable.

[36] Institute of Medicine, Committee on an Oral Health Initiative. (2011). Advancing Oral Health in America. The National Academies Press. Available at: http://www.hrsa.gov/publichealth/clinical/oralhealth/advancingoralhealth.pdf

[37] Wall, T., & Vujicic, M. (2015). Emergency Department Use for Dental Conditions Continues to Increase. Available at: http://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_0415_2.ashx

[38] American Dental Association. (2013). American Dental Association Statement on Regular Dental Visits. Available at: http://www.ada.org/en/press-room/news-releases/2013-archive/june/american-dental-association-statement-on-regular-dental-visits

[39] Blue Cross Blue Shield of Massachusetts. (Undated). Typical Costs for Common Medical Services. Available at: http://www.bluecrossma.com/blue-iq/pdfs/TypicalCosts_89717_042709.pdf

[40] Caldwell, N., Srebotnjak, T., Wang, T., & Hsia, R. (2013). "How Much Will I Get Charged for This?" Patient Charges for Top Ten Diagnoses in the Emergency Department. PLOS ONE, 8(2) 1-6. Available at: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0055491

[41] Although they are similar, the K-HRS and NHIS questions on Emergency Department use are not comparable. The 2016 K-HRS asks whether respondents used the ED for themselves or a family member (40.5%), while the NHIS asks whether respondents used the ED for themselves only (24.9% in 2014).

[42] Sommers, B., Blendon, R., Orav, J., & Epstein, A. (2016). Changes in Utilization and Health Among Low-Income Adults After Medicaid Expansion or Expanded Private Insurance. JAMA Internal Medicine. Available at: http://static.politico.com/9b/ca/6d295d7d4975a810287854c70efc/jama-study-medicaid-expansion-two-years-in.pdf

[43] State Health Access Data Assistance Center. (2016). Annual Report: Study of the Impact of the ACA Implementation in Kentucky. Available at: http://www.healthy-ky.org/sites/default/files/REVISED%20FINAL%20FULL%20Annual%20Report%203.21.pdf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